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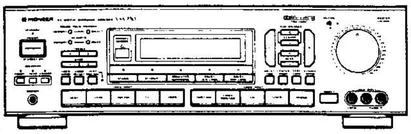
The future of sound and vision.

Service Manual



ORDER NO.
ARP2012

AV DIGITAL SURROUND AMPLIFIER
VSA-730

VSA – 730 HAS FOLLOWING VERSIONS :

Type	Power requirement	Export destination
HE	AC220V, 240V (switchable) *	European continent
YPW	AC240V only	Australia
SD	AC110V, 120 – 127V, 220V, 240V (switchable)	Kingdom of Saudi Arabia and General market

* Change the primary wiring of the power transformer.

- **This manual is applicable to the VSA – 730/HE, YPW and SD types.**
- **As to the YPW and SD types, refer to page 69.**
- **Ce manuel pour le service comprend les explications de réglage en français.**
- **Este manual de servicio trata del método ajuste escrito en español.**

CONTENTS

1. SPECIFICATIONS 2
2. EXPLODED VIEW, PACKING AND PARTS LIST 3
3. SCHEMATIC AND P.C. BOARDS CONNECTION DIAGRAMS 6
4. P.C.B's PARTS LIST 51
5. ADJUSTMENTS 57
5. RÉGLAGES 58
5. AJUSTES 59
6. IC INFORMATION 60
7. PROGRAMABLE REMOTE CONTROL UNIT 64
8. FOR SD AND YPW TYPES 69
9. PANEL FACILITIES 70

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1. SPECIFICATIONS

Audio Section

Power output (DIN)	
SURROUND (Center OFF)	
Front (1 kHz, 1%, 8 Ω)	95 W + 95 W
SURROUND (Center ON)	
Front (1 kHz, 1%, 8 Ω)	60 W + 60 W
Center (1 kHz, 1%, 8 Ω)	60 W
Rear (1 kHz, 1%, 8Ω)	15 W + 15 W
Music power (1 kHz, 1%, 8 Ω)	
SURROUND (Center OFF)	
Front	160 W + 160 W
SURROUND (Center ON)	
Front	130 W + 130 W
Center	130 W
Rear	40 W + 40 W
Dynamic power output	
4 Ω/8 Ω	180 W/110 W
Continuous power output	
STEREO	
Front (20 Hz to 20 kHz, 0.04%, 8 Ω)	80 W + 80 W
SURROUND (Center OFF)	
Front (20 Hz to 20 kHz, 0.04%, 8 Ω)	75 W + 75 W
SURROUND (Center ON)	
Front (20 Hz to 20 kHz, 0.04%, 8 Ω)	50 W + 50 W
Center (20 Hz to 20 kHz, 0.04%, 8 Ω)	50 W
Rear (1 kHz, 5%, 8 Ω)	23 W + 23 W
Signal-to-noise ratio (IHF, A network, shorted) DIRECT ON	
PHONO MM	72dB
CD, TUNER, TAPE 1/DAT, TAPE 2, VDP/CDV, TV, VIDEO, VCR 1, VCR 2	96dB
Frequency response (DIRECT ON)	
PHONO MM, 20Hz to 20kHz	± 0.3dB
CD, TUNER, TAPE 1/DAT, TAPE 2, VDP/CDV, TV, VIDEO, VCR 1, VCR 2, 5Hz to 100kHz	$^{+0}_{-3}$ dB
Phono overload level	
PHONO MM 1kHz, 0.1%	110 mV
Damping factor (1kHz, 6 Ω)	Over 100
Input (sensitivity/impedance)	
PHONO MM	2.5 mV/50 kΩ
CD, TUNER, TAPE 1/DAT, TAPE 2, VDP/CDV, TV, VIDEO, VCR 1, VCR 2	150 mV/30 kΩ
POWER IN (Front, rear, center)	1.0 V/47 kΩ
Output (level/impedance)	
TAPE 1/DAT, TAPE 2 REC OUT	150 mV/2.2 kΩ
VCR 1, VCR 2 AUDIO REC OUT	150 mV/2.2 kΩ
PRE OUT (Front, rear, center)	1.0 V/2.2 kΩ
Tone control	
BASS	± 8dB (100 Hz)
TREBLE	± 8dB (10 kHz)
Loudness contour	+6dB/+3dB (100 Hz/10 kHz)

Surround Section

Surround mode
DOLBY PRO LOGIC (NORMAL, WIDE, PHANTOM)
DOLBY 3CH LOGIC (NORMAL, WIDE, PHANTOM)
SIMULATED
STADIUM
STUDIO

Delay time	
For STADIUM, SIMULATED	5 mS to 35 mS (Seven 5 mS steps)
For DOLBY PRO LOGIC	15 mS to 30 mS (Four 5 mS steps)

Composite Video section

Input jacks (Sensitivity/impedance)	
VDP/CDV, TV, VIDEO, VCR 1, VCR 2	1 Vp-p/75 Ω
Output jacks (Output level/impedance)	
VCR1, VCR 2, MONITOR TV out	1 Vp-p/75 Ω
Frequency response	
VDP/CDV, TV, VIDEO, VCR 1, VCR 2, 10 Hz to 10 MHz	$^{+0}_{-3}$ dB
Signal-to-noise ratio	60dB
DG/DP	3%/2 degrees

Miscellaneous

Power requirements	a.c. 220 Volts~, 50/60 Hz
Power consumption	530 W
Dimensions	420 (W) x 126 (H) x 351 (D) mm
Weight (without package)	10 kg

Accessories

Operating instructions	1
Remote control unit	1
Alkaline dry batteries (LR6/AM-3)	2
Templates	2
Cushion spacers (large)	2
Cushion spacers (small)	2

NOTE:
Specifications and design are subject to change without notice due to improvements.

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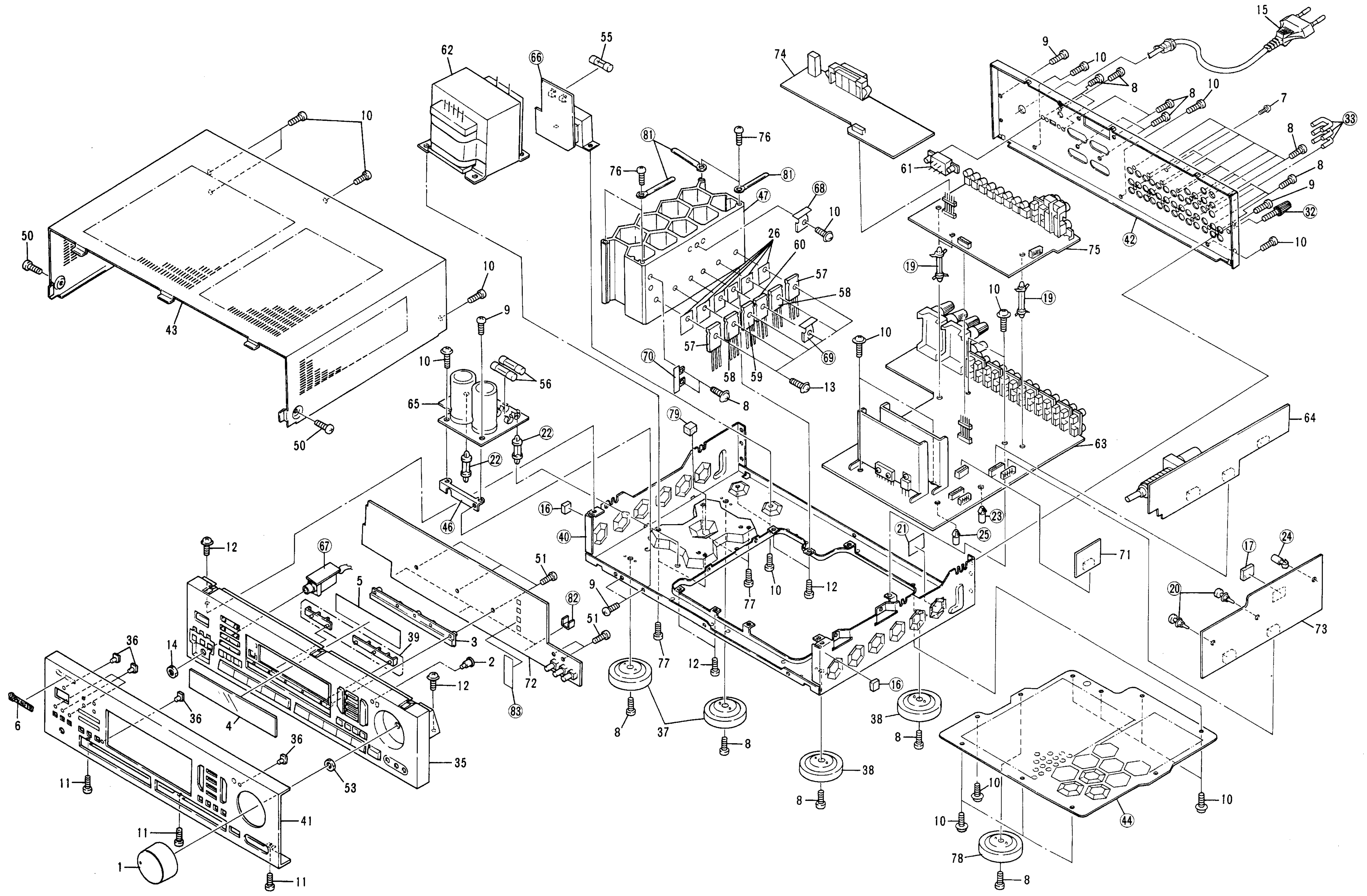
2. EXPLODED VIEW, PACKING AND PARTS LIST

2.1 EXTERIOR



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78
8

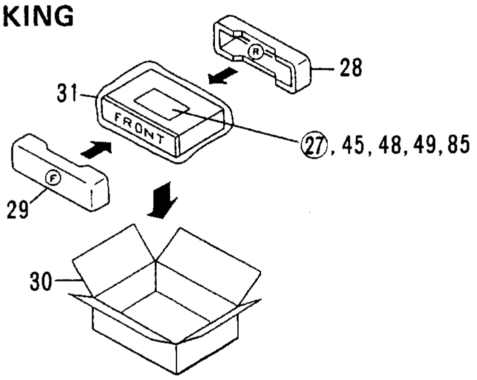
NOTES :

- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the impotance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Parts List of Exterior and Packing

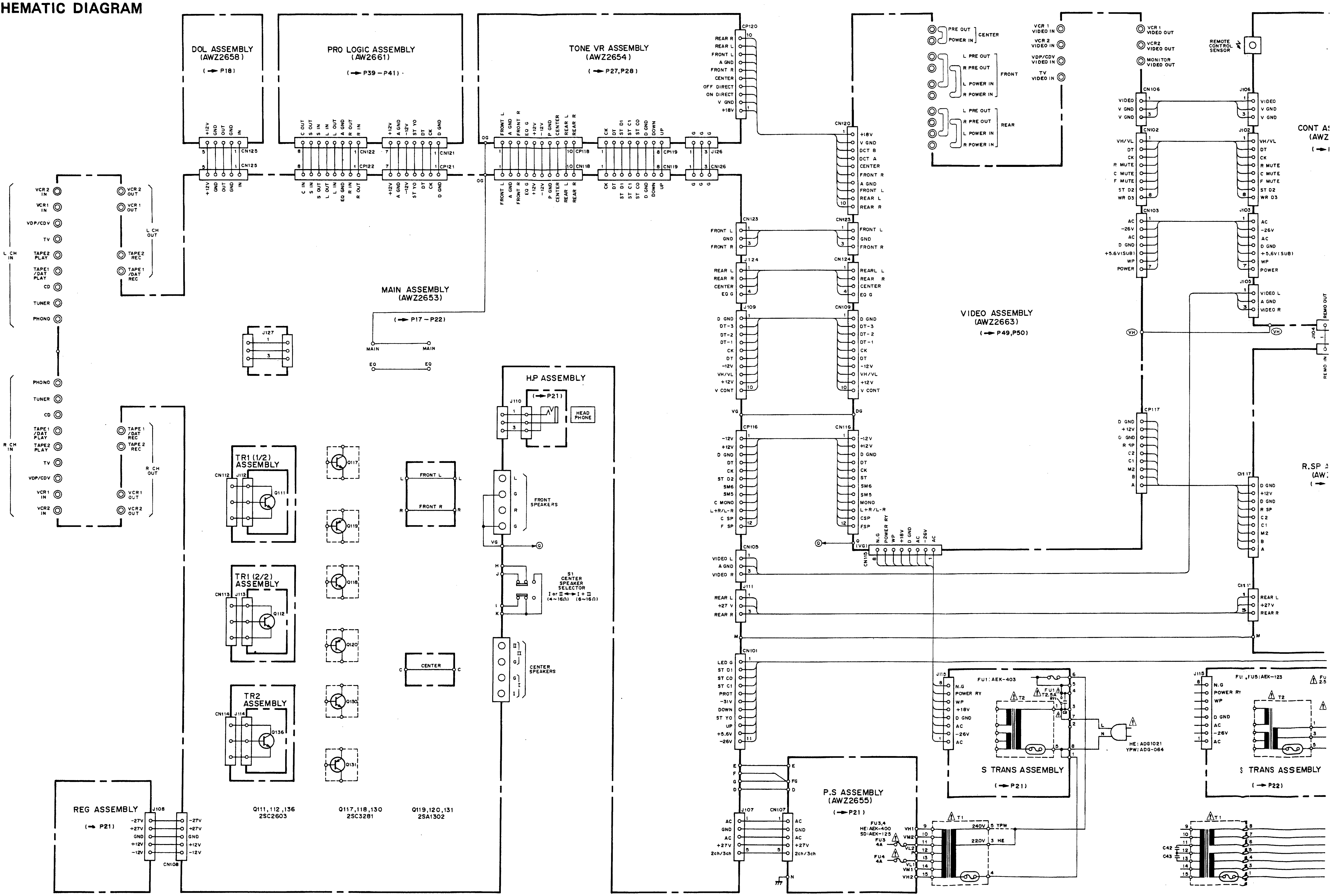
Mark	No.	Part No.	Description
	1	AAB1140	VOL knob
	2	AAD1398	Tact knob
	3	AAD1640	Surround knob
	4	AAK1794	Acrylic panel
	5	AAK1795	FL filter
	6	AAM1029	Name plate
	7	ABA1047	Screw
	8	ABA−298	Screw
	9	ABA1009	Screw
	10	ABA1011	Screw
	11	ABA1048	Screw
	12	ABA1050	Screw
	13	ABA1082	Screw
	14	ABN−065	Nut
⚠	15	ADG1021	AC power cord
	16		Cushion
	17		Cushion rubber
	18		......
	19		P.C.B. support
	20		Rivet
	21		Sheet
	22		P.C.B. support A
	23		P.C.B. support (H9.3)
	24		P.C.B. support (H20)
	25		P.C.B. support (H14)
	26	AEE1014	Mica sheet
	27		Battery
	28	AHA1210	Rear pad
	29	AHA1302	Front pad
	30	AHD1848	Packing case
	31	AHG1016	Sheet
	32		Terminal screw
	33		Jumper plug
	34		......
	35	AMB1552	Panel base
	36	AMR1160	Indicating lens
	37	AMR1434	Insulator assembly
	38	AMR1435	Insulator assembly
	39	AMR1941	Acrylic lens
	40		Chassis
	41	ANB1351	Front panel
	42		Rear panel
	43	ANE1205	Bonnet
	44		Bottom plate
	45	ARC1206	Operating instructions (Dutch/Swedish/Spanish/Portguese)
	46		P.C.B. holder
	47		Heat sink
	48	ARE1159	Operating instructions (English/German/French/Italian)
	49	AXD1144	Remote control unit (CU−VSA007)
	50	BBT30P060FZK	Screw
	51	BBZ26P080FMC	Screw
	52		......
	53	ABN1006	Nut
	54		......
⚠	55	AEK−403	Fuse (FU1 T2.5A)
⚠	56	AEK−400	Fuse (FU4, 3 T4A)
⚠	57	2SC3281	Transistor Q117, 118
⚠	58	2SA1302	Transistor Q119, 120
⚠	59	2SC3281	Transistor Q130
⚠	60	2SA1302	Transistor Q131
	61	AKX1004	Speaker selector S1
⚠	62	ATS1270	Power transformer T1
	63	AWZ2653	Main assembly
	64	AWZ2654	Tone VR assembly
	65	AWZ2655	PS assembly
	66		S.Trans assembly
	67		H.P assembly
	68		TR1 assembly
	69		TR2 assembly
	70		REG. assembly
	71	AWZ2658	DOL assembly
	72	AWZ2660	CONT assembly
	73	AWZ2661	Prologic assembly
	74	AWZ2922	R.SP assembly
	75	AWZ2663	Video assembly
	76	ABA1073	Screw
	77	ABA1053	Screw
	78	AEC1212	Leg assembly
	79		Cushion rubber
	80		......
	81		Nylon binder
	82		Spacer
	83		Acetate tape
	84		......
	85	AEC1219	Spacer set

2.2 PACKING

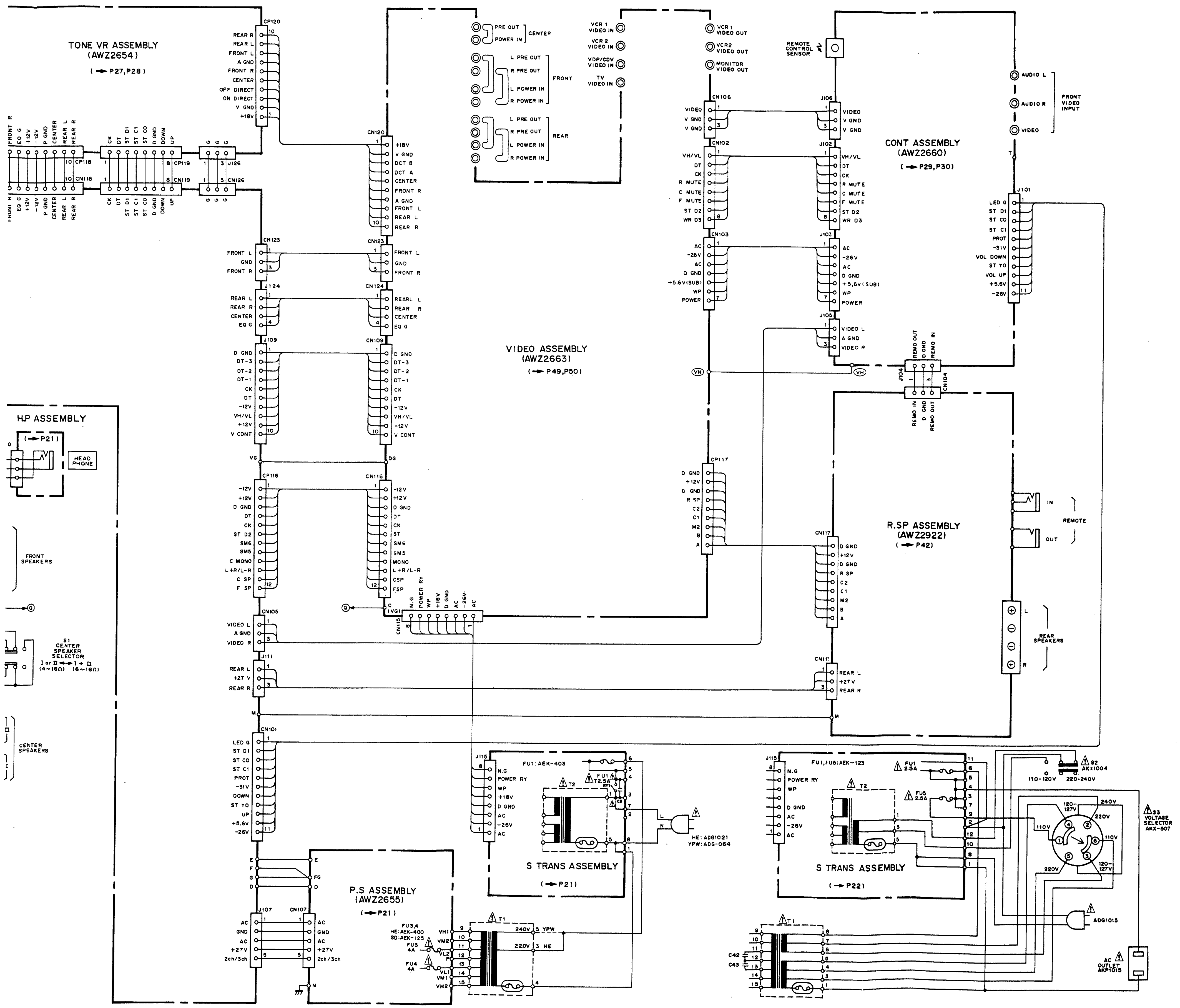


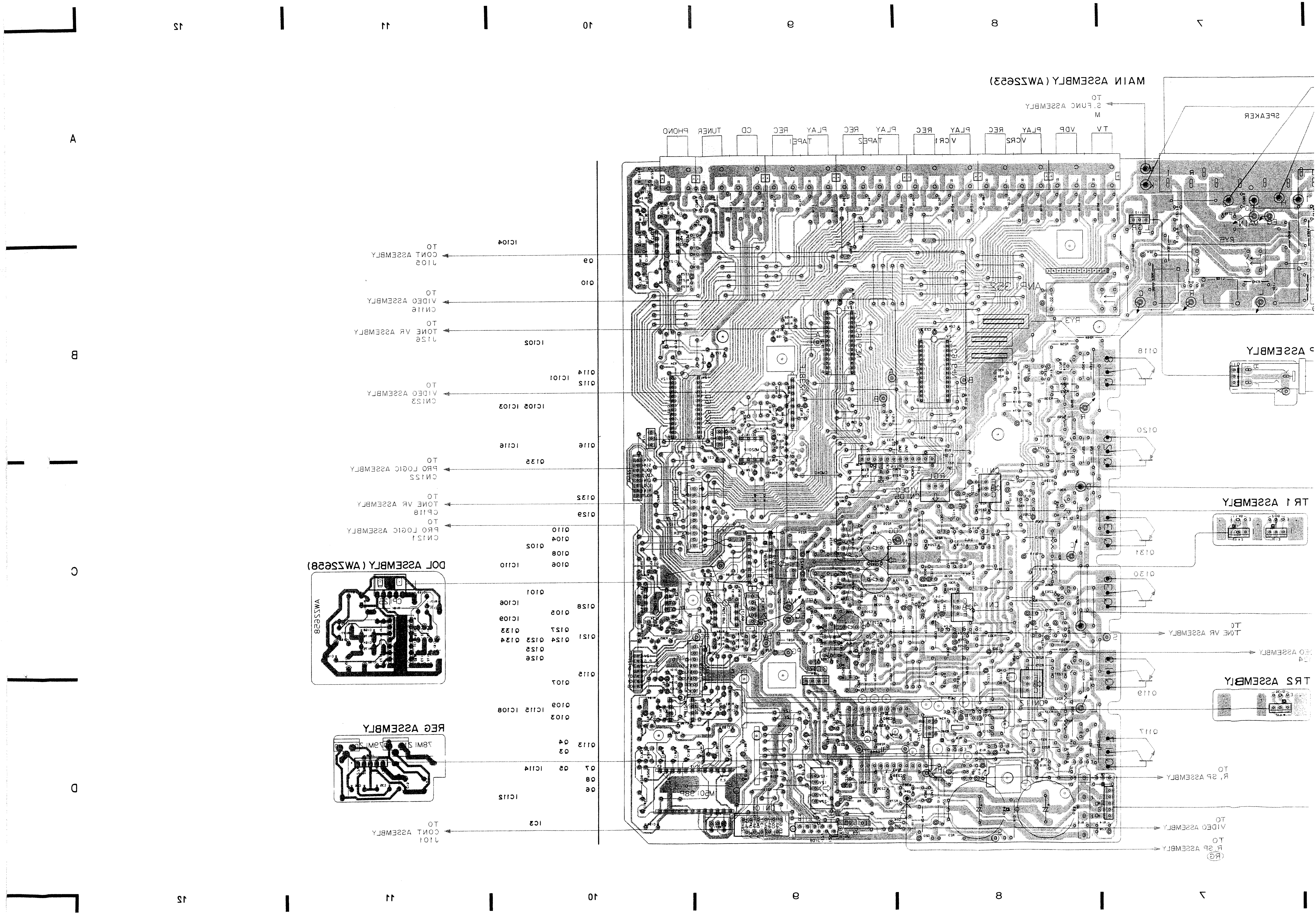
3. SCHEMATIC AND P.C. BOARDS CONNECTION DIAGRAMS

3.1 OVER ALL SCHEMATIC DIAGRAM


DOL ASSEMBLY (AWZ2658) (→ P18)
PRO LOGIC ASSEMBLY (AWZ2661) (→ P39 – P41)
TONE VR ASSEMBLY (AWZ2654) (→ P27,P28)
MAIN ASSEMBLY (AWZ2653) (→ P17 – P22)
VIDEO ASSEMBLY (AWZ2663) (→ P49,P50)
H.P ASSEMBLY (→ P21)
HEAD PHONE
FRONT SPEAKERS
S1 CENTER SPEAKER SELECTOR
CENTER SPEAKERS
TR1 (1/2) ASSEMBLY
TR1 (2/2) ASSEMBLY
TR2 ASSEMBLY
REG ASSEMBLY (→ P21)
P.S ASSEMBLY (AWZ2655) (→ P21)
S TRANS ASSEMBLY (→ P21)
S TRANS ASSEMBLY (→ P22)
Q111,112,136 2SC2603
Q117,118,130 2SC3281
Q119,120,131 2SA1302
L CH IN
R CH IN
L CH OUT
R CH OUT
REMOTE CONTROL SENSOR
FU1: AEK-403
FU1,FU5: AEK-123
HE: ADG1021
YPW: ADG-064
CONT AS
R.SP A

RAMS


TONE VR ASSEMBLY
(AWZ2654)
(→ P27,P28)
CP120
REAR R
REAR L
FRONT L
A GND
FRONT R
CENTER
OFF DIRECT
ON DIRECT
V GND
+18V
CP118
CN118
CP119
CN119
J126
CN126
CN120
+18V
V GND
DCT B
DCT A
CENTER
FRONT R
A GND
FRONT L
REAR L
REAR R
PRE OUT
POWER IN
CENTER
L PRE OUT
R PRE OUT
L POWER IN
R POWER IN
FRONT
REAR
VCR 1 VIDEO IN
VCR 2 VIDEO IN
VDP/CDV VIDEO IN
TV VIDEO IN
VCR 1 VIDEO OUT
VCR2 VIDEO OUT
MONITOR VIDEO OUT
REMOTE CONTROL SENSOR
AUDIO L
AUDIO R
VIDEO
FRONT VIDEO INPUT
CN106
J106
VIDEO
V GND
CN102
J102
VH/VL
DT
CK
R MUTE
C MUTE
F MUTE
ST D2
WR D3
CN103
J103
AC
-26V
D GND
+5.6V(SUB)
WP
POWER
J105
VIDEO L
A GND
VIDEO R
CONT ASSEMBLY
(AWZ2660)
(→ P29,P30)
J101
LED G
ST D1
ST CO
ST C1
PROT
-31V
VOL DOWN
ST YO
VOL UP
+5.6V
-26V
CN123
FRONT L
GND
FRONT R
J124
CN124
REAR L
REAR R
CENTER
EQ G
J109
CN109
D GND
DT-3
DT-2
DT-1
-12V
+12V
V CONT
VIDEO ASSEMBLY
(AWZ2663)
(→ P49,P50)
VH
REMO OUT
D GND
REMO IN
J104
CN104
H.P ASSEMBLY
(→ P21)
HEAD PHONE
VG
DG
CP116
CN116
SM6
SM5
C MONO
L+R/L-R
C SP
F SP
CP117
R SP
C2
C1
M2
B
A
R.SP ASSEMBLY
(AWZ2922)
(→ P42)
CN117
IN
OUT
REMOTE
REAR SPEAKERS
FRONT SPEAKERS
S1 CENTER SPEAKER SELECTOR
I or II ←→ I + II
(4~16Ω) (6~16Ω)
CENTER SPEAKERS
CN105
CN115
N.G
POWER RY
WP
+18V
J111
CN111
REAR L
+27V
REAR R
M
CN101
LED G
ST D1
ST CO
ST C1
PROT
-31V
DOWN
ST YO
UP
+5.6V
-26V
J115
FU1: AEK-403
T2
FU1 T2.5A
HE: ADG1021
YPW: ADG-064
S TRANS ASSEMBLY
(→ P21)
FU1,FU5: AEK-123
FU1 2.5A
FU5 2.5A
S TRANS ASSEMBLY
(→ P22)
S2 AKX1004
110-120V 220-240V
S3 VOLTAGE SELECTOR AKX-507
120-127V
240V
220V
110V
ADG1015
AC OUTLET AKP1015
E
F
G
FG
D
P.S ASSEMBLY
(AWZ2655)
(→ P21)
J107
CN107
AC
GND
+27V
2ch/3ch
N
FU3,4
HE: AEK-400
SD: AEK-125
FU3 4A
FU4 4A
VH1
VM2
VL2
VL1
VM1
VH2
T1
240V
YPW
220V
HE
C42
C43


12
11
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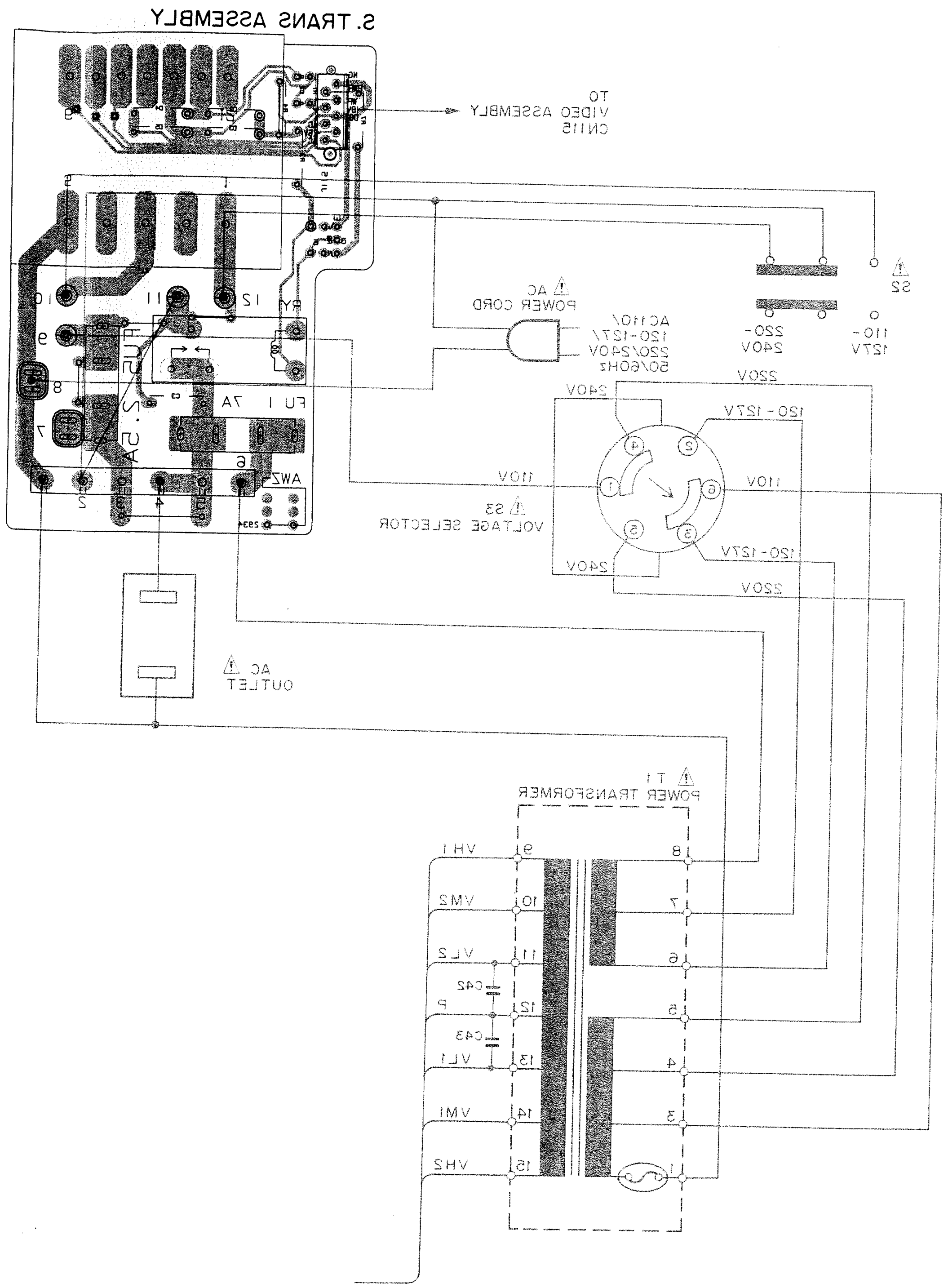
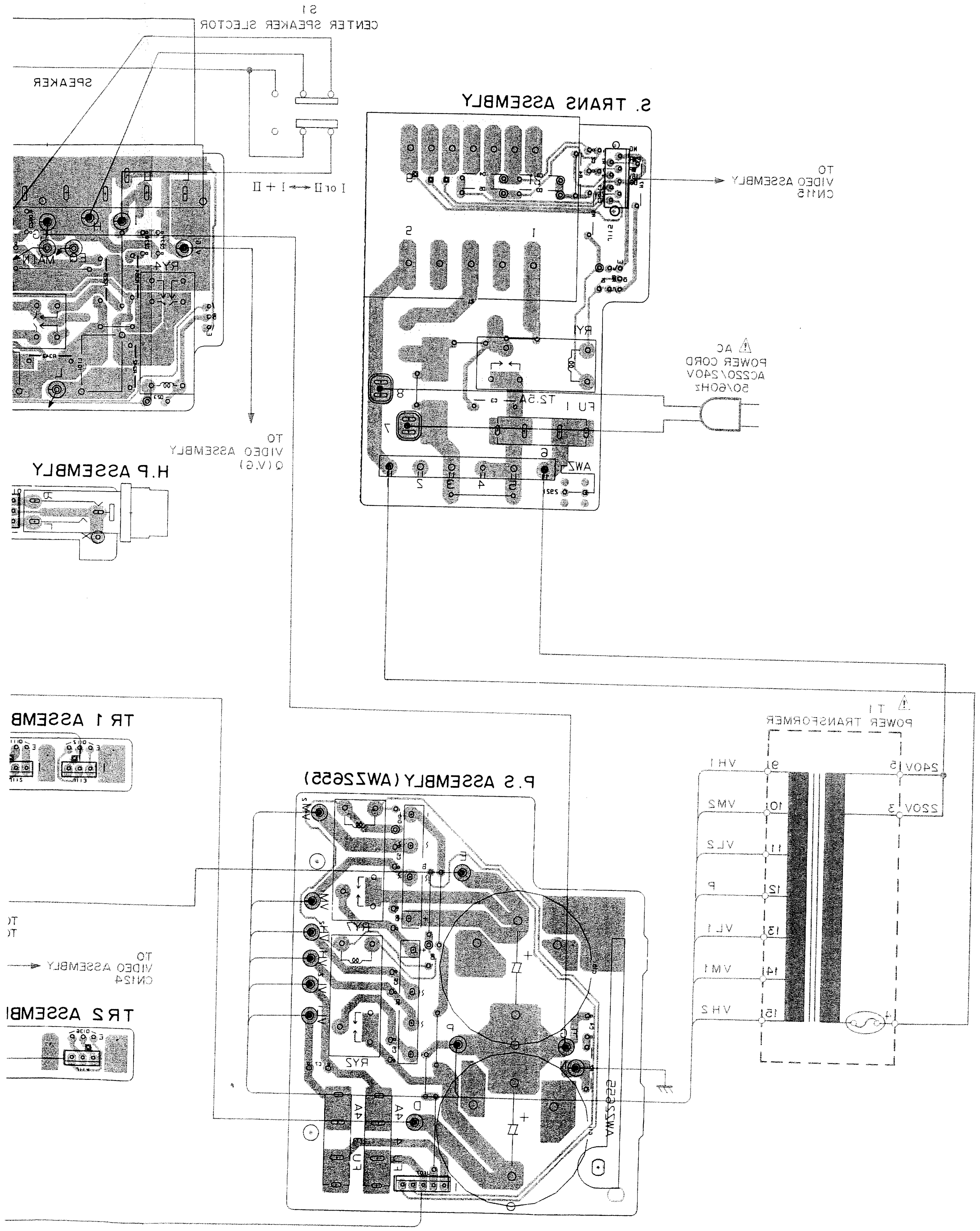
7
A
B
C
D
MAIN ASSEMBLY (AWZ2653)
TO S.FUNC ASSEMBLY M
SPEAKER
TV
VDP
PLAY REC VCR2
PLAY REC VCR1
PLAY REC TAPE2
PLAY REC TAPE1
CD
TUNER
PHONO
IC104
Q9
TO CONT ASSEMBLY J105
Q10
TO VIDEO ASSEMBLY CN116
TO TONE VR ASSEMBLY J126
IC102
Q114 IC101
Q112
TO VIDEO ASSEMBLY CN123
IC105 IC103
Q116 IC116
Q135
TO PRO LOGIC ASSEMBLY CN122
Q132
TO TONE VR ASSEMBLY CP118
Q129
TO PRO LOGIC ASSEMBLY CN121
Q110
Q104
Q102
Q108
Q106 IC110
DOL ASSEMBLY (AWZ2658)
AWZ2658
Q101
Q128 IC106
Q105 IC109
Q127 Q133
Q121 Q124 Q123 Q134
Q125
Q126
Q115
Q107
Q109 IC115 IC108
Q103
REG ASSEMBLY
Q113 Q4
Q3
Q7 Q5 IC114
Q8
Q6
IC112
IC3
TO CONT ASSEMBLY J101
M50138P
ANP1352
Q118
P ASSEMBLY
Q120
TR 1 ASSEMBLY
Q131
Q130
TO TONE VR ASSEMBLY
TO VIDEO ASSEMBLY CN124
TR2 ASSEMBLY
Q119
Q117
TO R, SP ASSEMBLY
TO VIDEO ASSEMBLY
TO R, SP ASSEMBLY (RG)

3.2 P.C.BOARD PATTERNS OF MAIN, S.TRANS, P.S, HP, TR1, TR2, REG AND DOL ASSEMBLIES

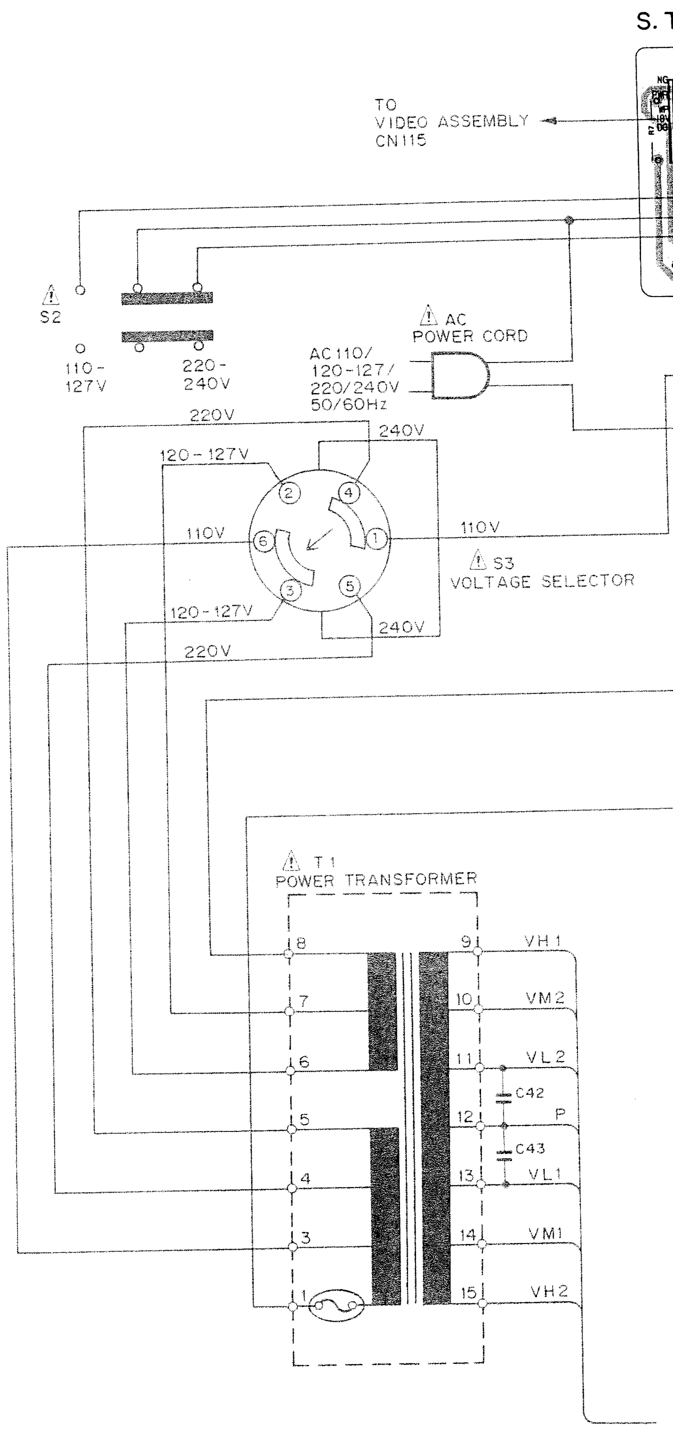
- View from soldering side

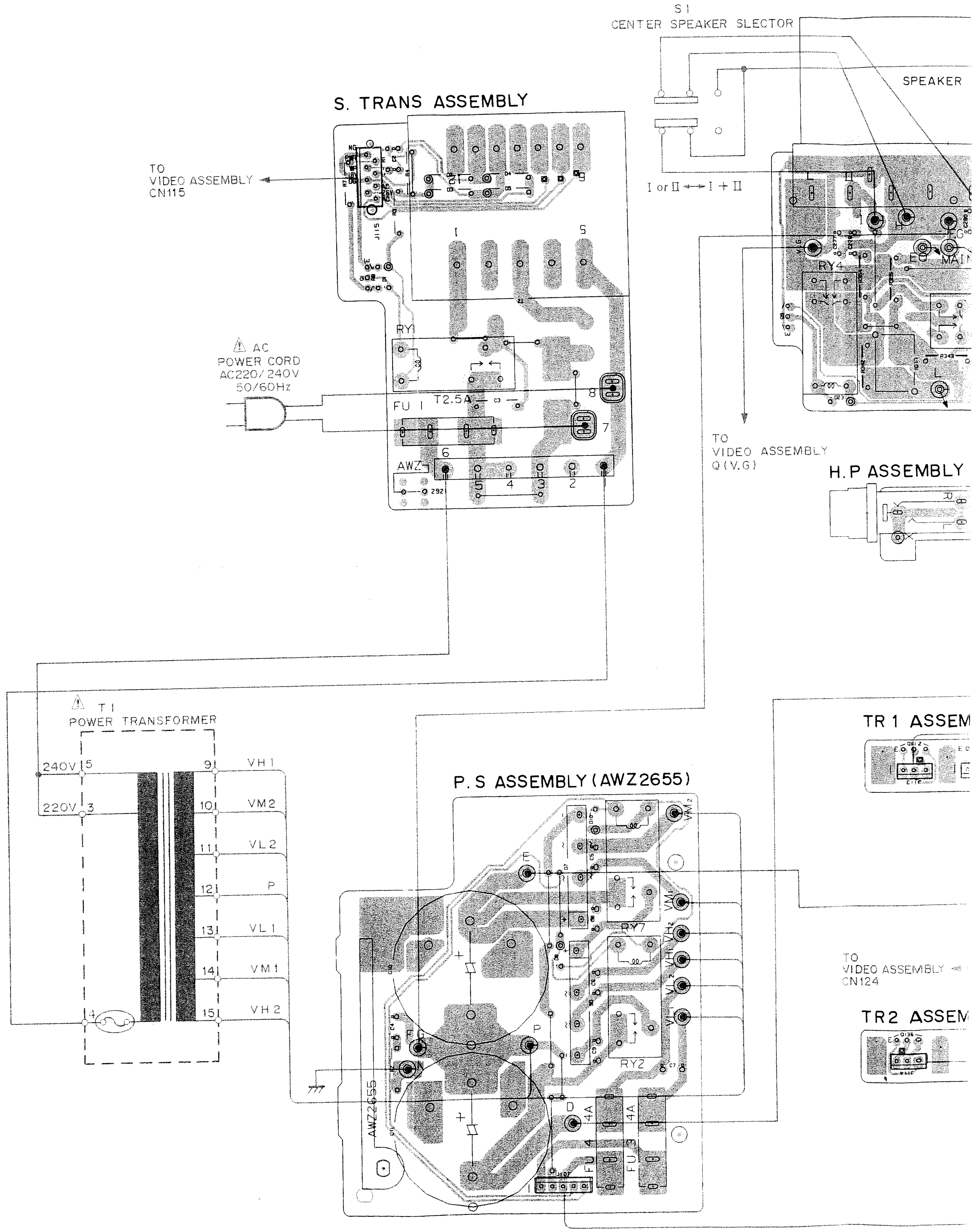

S.TRANS ASSEMBLY
TO VIDEO ASSEMBLY CN115
RY1
FU1 7A
AWZ
AC POWER CORD
AC110/120-127/220/240V 50/60Hz
S2
110-127V
220-240V
S3 VOLTAGE SELECTOR
110V
120-127V
220V
240V
AC OUTLET
T1 POWER TRANSFORMER
VH1
VM2
VL2
P
VL1
VM1
VH2
C42
C43

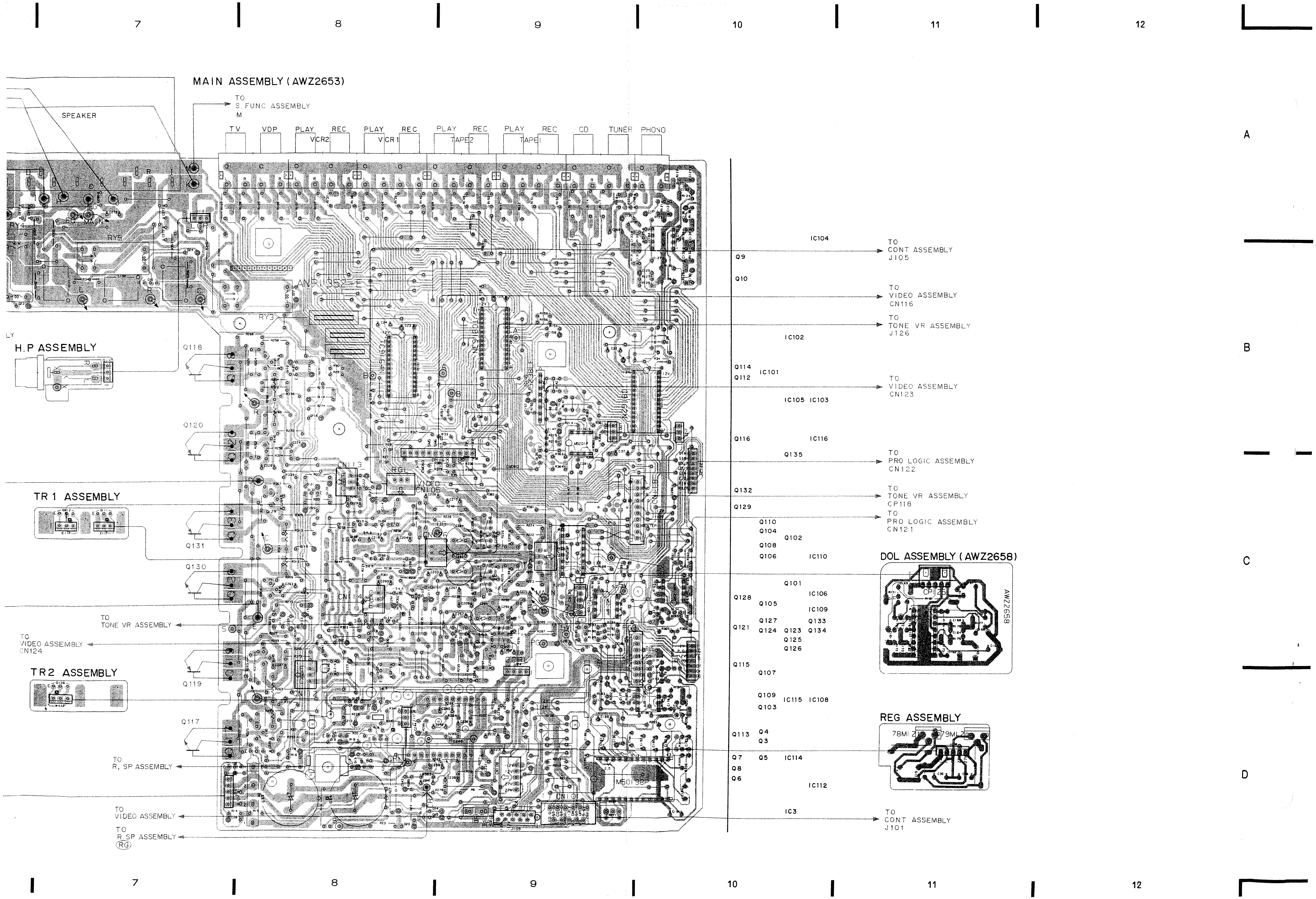

S1 CENTER SPEAKER SLECTOR
SPEAKER
I or II → I + II
MAIN
RY
TO VIDEO ASSEMBLY (V.G)
H.P ASSEMBLY
S.TRANS ASSEMBLY
TO VIDEO ASSEMBLY CN115
RY1
FU1 T2.5A
AWZ
AC POWER CORD
AC220/240V 50/60Hz
TR1 ASSEMB
P.S ASSEMBLY (AWZ2655)
RY7
RY2
TO VIDEO ASSEMBLY CN124
TR2 ASSEMB
T1 POWER TRANSFORMER
240V
220V
VH1
VM2
VL2
P
VL1
VM1
VH2

3.2 P.C.BOARD PATTERNS OF MAIN, S.TRANS, P.S, HP, TR1, TR2, REG AND DOL ASSEMBLIES

- View from component side


A
B
C
D
S. TRANS ASSEMBLY
TO VIDEO ASSEMBLY CN115
S2
110-127V
220-240V
AC POWER CORD
AC110/ 120-127/ 220/240V 50/60Hz
220V
240V
120-127V
110V
S3 VOLTAGE SELECTOR
RY1
FU1 7A
FU5 2.5A
AWZ
AC OUTLET
T1 POWER TRANSFORMER
VH1
VM2
VL2
C42
P
C43
VL1
VM1
VH2


S1 CENTER SPEAKER SLECTOR
I or II ←→ I + II
SPEAKER
S. TRANS ASSEMBLY
TO VIDEO ASSEMBLY CN115
AC POWER CORD AC220/240V 50/60Hz
RY1
FU1 T2.5A
AWZ
TO VIDEO ASSEMBLY Q(V.G)
H.P ASSEMBLY
EQ MAIN
RY4
T1 POWER TRANSFORMER
240V
220V
VH1
VM2
VL2
P
VL1
VM1
VH2
P.S ASSEMBLY (AWZ2655)
RY7
RY2
4A
FU
AWZ2655
TR1 ASSEM
TO VIDEO ASSEMBLY CN124
TR2 ASSEM


7
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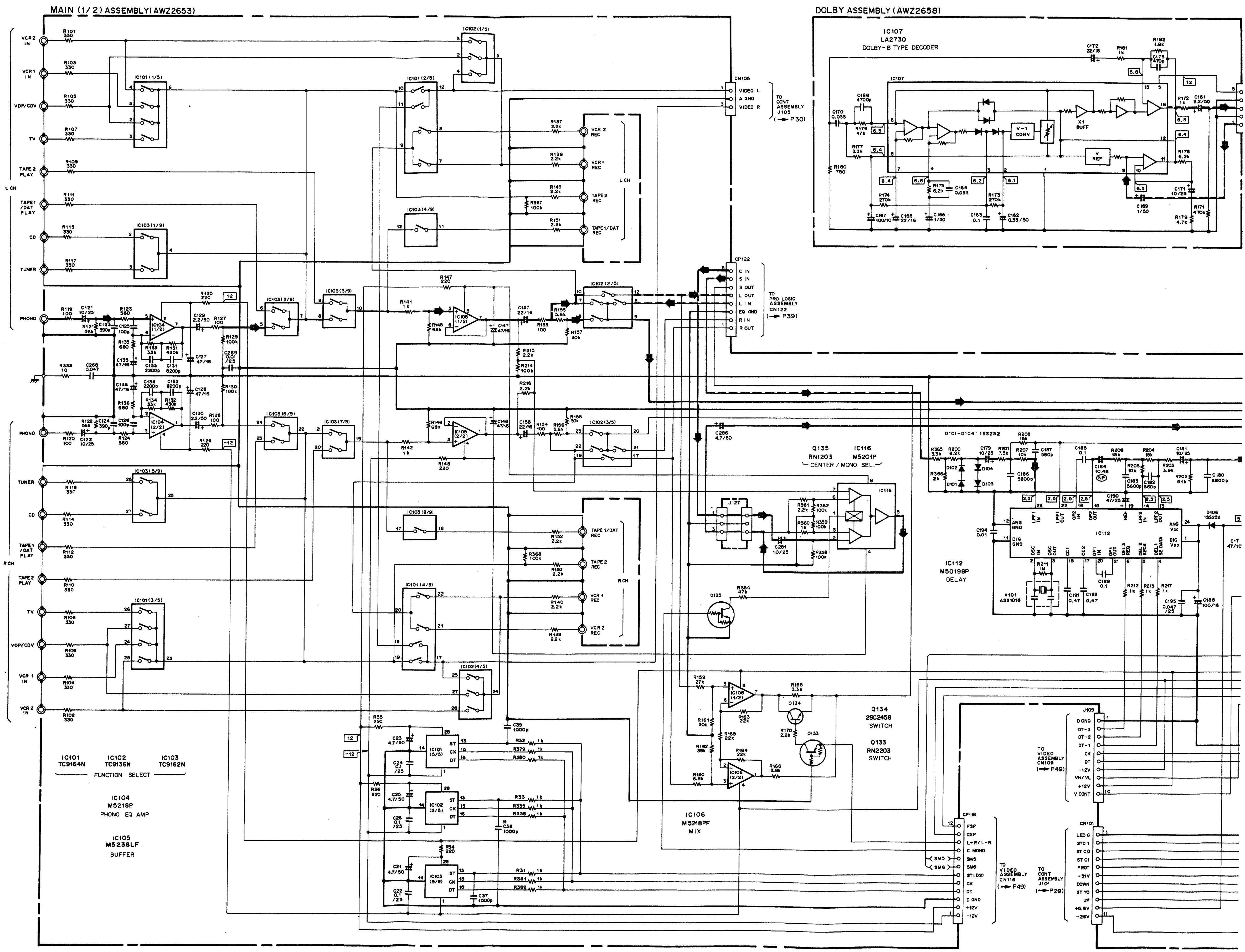
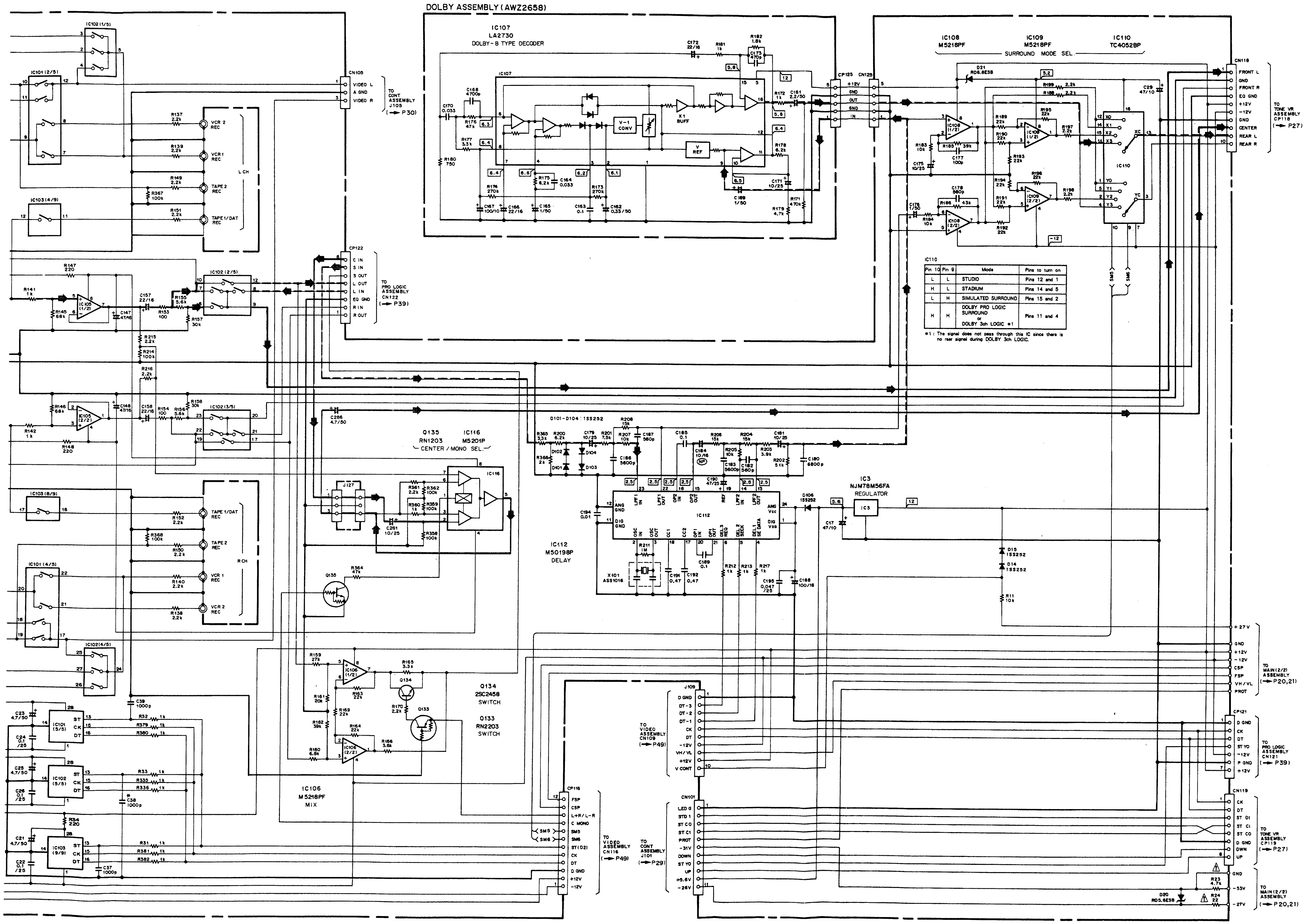
12
A
B
C
D
MAIN ASSEMBLY (AWZ2653)
TO
S. FUNC ASSEMBLY
M
SPEAKER
TV
VDP
PLAY
REC
VCR2
PLAY
REC
VCR1
PLAY
REC
TAPE2
PLAY
REC
TAPE1
CD
TUNER
PHONO
RY4
EQ MAIN
RY5
RY3
ANP1352-L
TC9164N
M5201P
M50198P
CN113
RG1
VIDEO
CN105
CN114
CN112
CN101
J103
H.P ASSEMBLY
Q118
Q120
TR 1 ASSEMBLY
Q131
Q130
TO
TONE VR ASSEMBLY
TO
VIDEO ASSEMBLY
CN124
TR2 ASSEMBLY
Q119
Q117
TO
R, SP ASSEMBLY
TO
VIDEO ASSEMBLY
TO
R.SP ASSEMBLY
RG
Q9
Q10
IC104
IC102
Q114
Q112
IC101
IC105
IC103
Q116
IC116
Q135
Q132
Q129
Q110
Q104
Q108
Q106
Q102
IC110
Q101
Q128
Q105
IC106
IC109
Q127
Q133
Q121
Q124
Q123
Q134
Q125
Q126
Q115
Q107
Q109
IC115
IC108
Q103
Q113
Q4
Q3
Q7
Q5
IC114
Q8
Q6
IC112
IC3
TO
CONT ASSEMBLY
J105
TO
VIDEO ASSEMBLY
CN116
TO
TONE VR ASSEMBLY
J126
TO
VIDEO ASSEMBLY
CN123
TO
PRO LOGIC ASSEMBLY
CN122
TO
TONE VR ASSEMBLY
CP118
TO
PRO LOGIC ASSEMBLY
CN121
DOL ASSEMBLY (AWZ2658)
CP126
AWZ2658
REG ASSEMBLY
78M12
79M12
TO
CONT ASSEMBLY
J101

3.3 SCHEMATIC DIAGRAMS OF MAIN(1/2) AND DOL ASSEMBLIES


1
2
3
4
5
6
A
B
C
D
MAIN (1/2) ASSEMBLY (AWZ2653)
DOLBY ASSEMBLY (AWZ2658)
IC107
LA2730
DOLBY-B TYPE DECODER
VCR 2 IN
VCR 1 IN
VDP/CDV
TV
TAPE 2 PLAY
TAPE1 /DAT PLAY
CD
TUNER
PHONO
L CH
R CH
IC101 (1/5)
IC102 (1/5)
IC103 (1/9)
IC104 (1/2)
IC105 (1/2)
CN105
VIDEO L
A GND
VIDEO R
TO CONT ASSEMBLY J105 (→ P30)
VCR 2 REC
VCR 1 REC
TAPE 2 REC
TAPE 1/DAT REC
CP122
C IN
S IN
S OUT
L OUT
L IN
EQ GND
R IN
R OUT
TO PRO LOGIC ASSEMBLY CN122 (→ P39)
V-I CONV
X1 BUFF
V REF
D101–D104 : 1SS252
Q135 RN1203
IC116 M5201P
CENTER / MONO SEL.
IC112 M50198P DELAY
X101 ASS1016
J127
Q134 2SC2458 SWITCH
Q133 RN2203 SWITCH
IC106 M5218PF MIX
IC101 TC9164N
IC102 TC9136N
IC103 TC9162N
FUNCTION SELECT
IC104 M5218P PHONO EQ AMP
IC105 M5238LF BUFFER
CP116
FSP
CSP
L+R/L-R
C MONO
SM5
SM6
ST(D2)
CK
DT
D GND
+12V
-12V
TO VIDEO ASSEMBLY CN116 (→ P49)
J109
D GND
DT-3
DT-2
DT-1
CK
DT
-12V
VH/VL
+12V
V CONT
TO VIDEO ASSEMBLY CN109 (→ P49)
CN101
LED G
STD 1
ST CO
ST C1
PROT
-31V
DOWN
ST YO
UP
+5.6V
-26V
TO CONT ASSEMBLY J101 (→ P29)

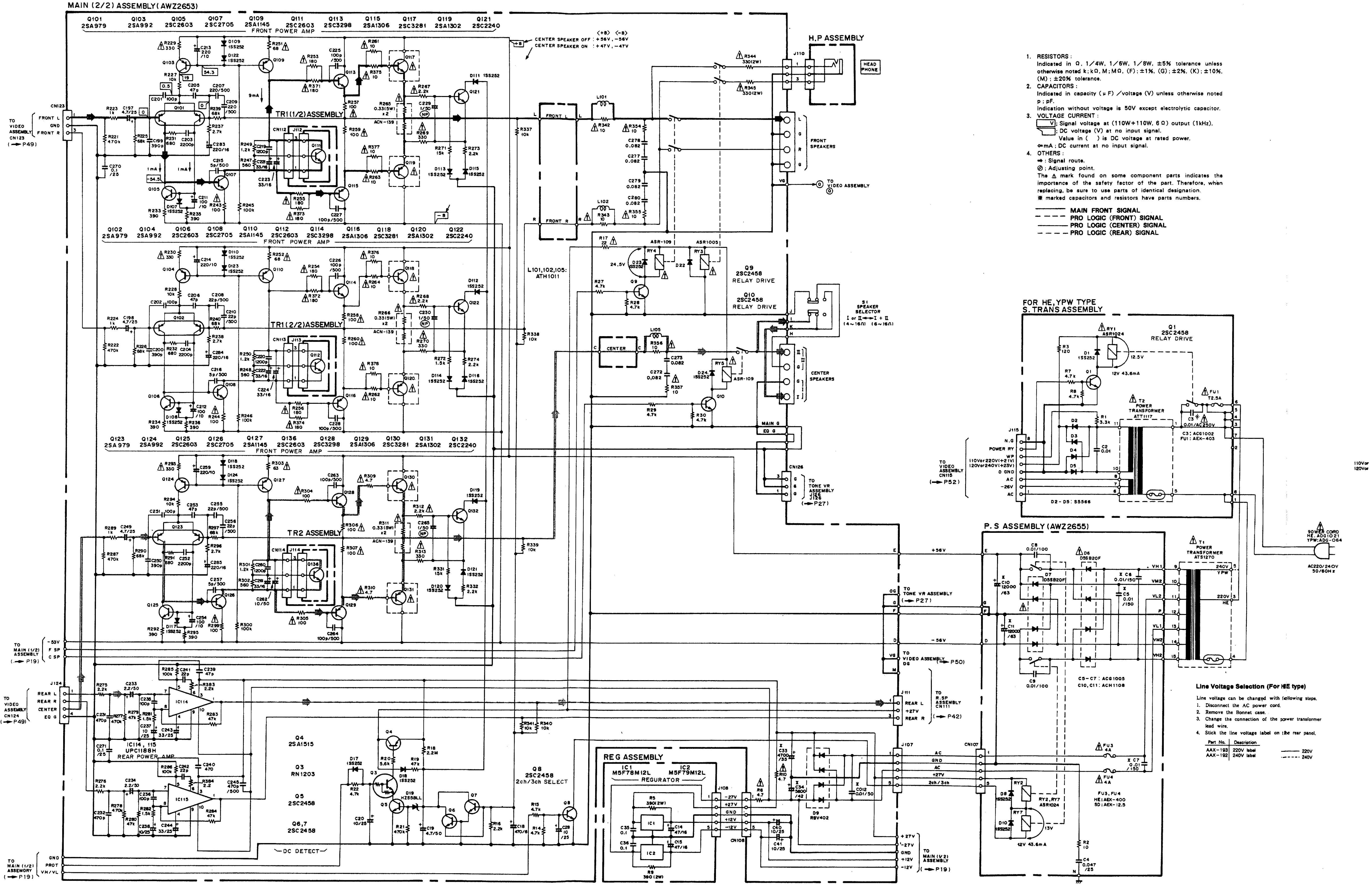

DOLBY ASSEMBLY (AWZ2658)
IC107
LA2730
DOLBY-B TYPE DECODER
V-I CONV
X1 BUFF
V REF
IC108
M5218PF
IC109
M5218PF
IC110
TC4052BP
SURROUND MODE SEL.
CN105
VIDEO L
A GND
VIDEO R
TO CONT ASSEMBLY J105 (→ P30)
CP125
CN125
+12V
GND
OUT
GND
IN
CN118
FRONT L
GND
FRONT R
EQ GND
+12V
−12V
GND
CENTER
REAR L
REAR R
TO TONE VR ASSEMBLY CP118 (→ P27)
CP122
C IN
S IN
S OUT
L OUT
L IN
EQ GND
R IN
R OUT
TO PRO LOGIC ASSEMBLY CN122 (→ P39)
VCR 2 REC
VCR 1 REC
TAPE 2 REC
TAPE 1/DAT REC
L CH
R CH
Q135
RN1203
IC116
M5201P
CENTER / MONO SEL.
J127
D101–D104 : 1SS252
IC112
M50198P
DELAY
X101
AS51016
IC3
NJM78M56FA
REGULATOR
D15 1SS252
D14 1SS252
D106 1SS252
D21 RD6.8ESB
D20 RD5.6ESB
IC106
M5218PF
MIX
Q134
2SC2458
SWITCH
Q133
RN2203
SWITCH
CP116
FSP
CSP
L+R/L−R
C MONO
SM5
SM6
ST(D2)
CK
DT
D GND
+12V
−12V
TO VIDEO ASSEMBLY CN116 (→ P49)
J109
D GND
DT-3
DT-2
DT-1
CK
DT
−12V
VH/VL
+12V
V CONT
TO VIDEO ASSEMBLY CN109 (→ P49)
CN101
LED G
STD 1
ST C0
ST C1
PROT
−31V
DOWN
ST Y0
UP
+5.6V
−26V
TO CONT ASSEMBLY J101 (→ P29)
+27V
GND
+12V
−12V
CSP
FSP
VH/VL
PROT
TO MAIN (2/2) ASSEMBLY (→ P20,21)
CP121
D GND
CK
DT
ST Y0
−12V
P GND
+12V
TO PRO LOGIC ASSEMBLY CN121 (→ P39)
CN119
CK
DT
ST DI
ST C1
ST C0
D GND
DWN
UP
TO TONE VR ASSEMBLY CP119 (→ P27)
GND
−53V
−27V
TO MAIN (2/2) ASSEMBLY (→ P20,21)
4
5
6
7
8
9
A
B
C
D

IC110

Pin 10	Pin 9	Mode	Pins to turn on
L	L	STUDIO	Pins 12 and 1
H	L	STADIUM	Pins 14 and 5
L	H	SIMULATED SURROUND	Pins 15 and 2
H	H	DOLBY PRO LOGIC SURROUND or DOLBY 3ch LOGIC *1	Pins 11 and 4

*1 : The signal does not pass through this IC since there is no rear signal during DOLBY 3ch LOGIC.

3.4 SCHEMATIC DIAGRAMS OF MAIN(2/2), P.S, S.TRANS, HP, REG, TR1 AND TR2 ASSEMBLIES


MAIN (2/2) ASSEMBLY (AWZ2653)
FRONT POWER AMP
Q101 2SA979
Q103 2SA992
Q105 2SC2603
Q107 2SC2705
Q109 2SA1145
Q111 2SC2603
Q113 2SC3298
Q115 2SA1306
Q117 2SC3281
Q119 2SA1302
Q121 2SC2240
Q102 2SA979
Q104 2SA992
Q106 2SC2603
Q108 2SC2705
Q110 2SA1145
Q112 2SC2603
Q114 2SC3298
Q116 2SA1306
Q118 2SC3281
Q120 2SA1302
Q122 2SC2240
Q123 2SA979
Q124 2SA992
Q125 2SC2603
Q126 2SC2705
Q127 2SA1145
Q136 2SC2603
Q128 2SC3298
Q129 2SA1306
Q130 2SC3281
Q131 2SA1302
Q132 2SC2240
TR1(1/2)ASSEMBLY
TR1(2/2)ASSEMBLY
TR2 ASSEMBLY
CENTER SPEAKER OFF : +56V, -56V
CENTER SPEAKER ON : +47V, -47V
H.P ASSEMBLY
HEAD PHONE
FRONT SPEAKERS
CENTER SPEAKERS
TO VIDEO ASSEMBLY
L101,102,105: ATH1011
Q9 2SC2458 RELAY DRIVE
Q10 2SC2458 RELAY DRIVE
S1 SPEAKER SELECTOR
FOR HE, YPW TYPE S.TRANS ASSEMBLY
Q1 2SC2458 RELAY DRIVE
T2 POWER TRANSFORMER ATT1117
D2 - D5 : SS566
C3 : ACG1002
FU1 : AEK-403
TO VIDEO ASSEMBLY CN115 (→ P52)
TO TONE VR ASSEMBLY J126 (→ P27)
POWER CORD HE: ADG1021 YPW: ADG-064
AC220/240V 50/60Hz
110V or 120V or
P.S ASSEMBLY (AWZ2655)
T1 POWER TRANSFORMER ATS1270
C5 - C7 : ACG1005
C10, C11 : ACH1108
FU3, FU4 HE: AEK-400 SD: AEK-12.5
RY2, RY7 ASR1024
TO VIDEO ASSEMBLY CN123 (→ P49)
TO MAIN (1/2) ASSEMBLY (→ P19)
TO VIDEO ASSEMBLY CN124 (→ P49)
IC114, 115 UPC1188H REAR POWER AMP
Q4 2SA1515
Q3 RN1203
Q5 2SC2458
Q6,7 2SC2458
DC DETECT
Q8 2SC2458 2ch/3ch SELECT
REG ASSEMBLY
IC1 M5F78M12L
IC2 M5F79M12L
REGURATOR
TO R.SP ASSEMBLY CN111 (→ P42)
TO MAIN (1/2) ASSEMBLY (→ P19)
TO TONE VR ASSEMBLY (→ P27)
TO VIDEO ASSEMBLY D8 (→ P50)

1. RESISTORS :
   Indicated in Ω, 1/4W, 1/6W, 1/8W, ±5% tolerance unless otherwise noted k; kΩ, M; MΩ, (F); ±1%, (G); ±2%, (K); ±10%, (M); ±20% tolerance.
2. CAPACITORS :
   Indicated in capacity (μF) /voltage (V) unless otherwise noted p ; pF.
   Indication without voltage is 50V except electrolytic capacitor.
3. VOLTAGE CURRENT :
   V ; Signal voltage at (110W+110W, 6 Ω) output (1kHz).
   ; DC voltage (V) at no input signal.
   Value in ( ) is DC voltage at rated power.
   ⇐mA ; DC current at no input signal.
4. OTHERS :
   ➡ : Signal route.
   ⊘ ; Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ✱ marked capacitors and resistors have parts numbers.

——— MAIN FRONT SIGNAL
– – – – PRO LOGIC (FRONT) SIGNAL
——— PRO LOGIC (CENTER) SIGNAL
– – – – PRO LOGIC (REAR) SIGNAL

Line Voltage Selection (For HE type)

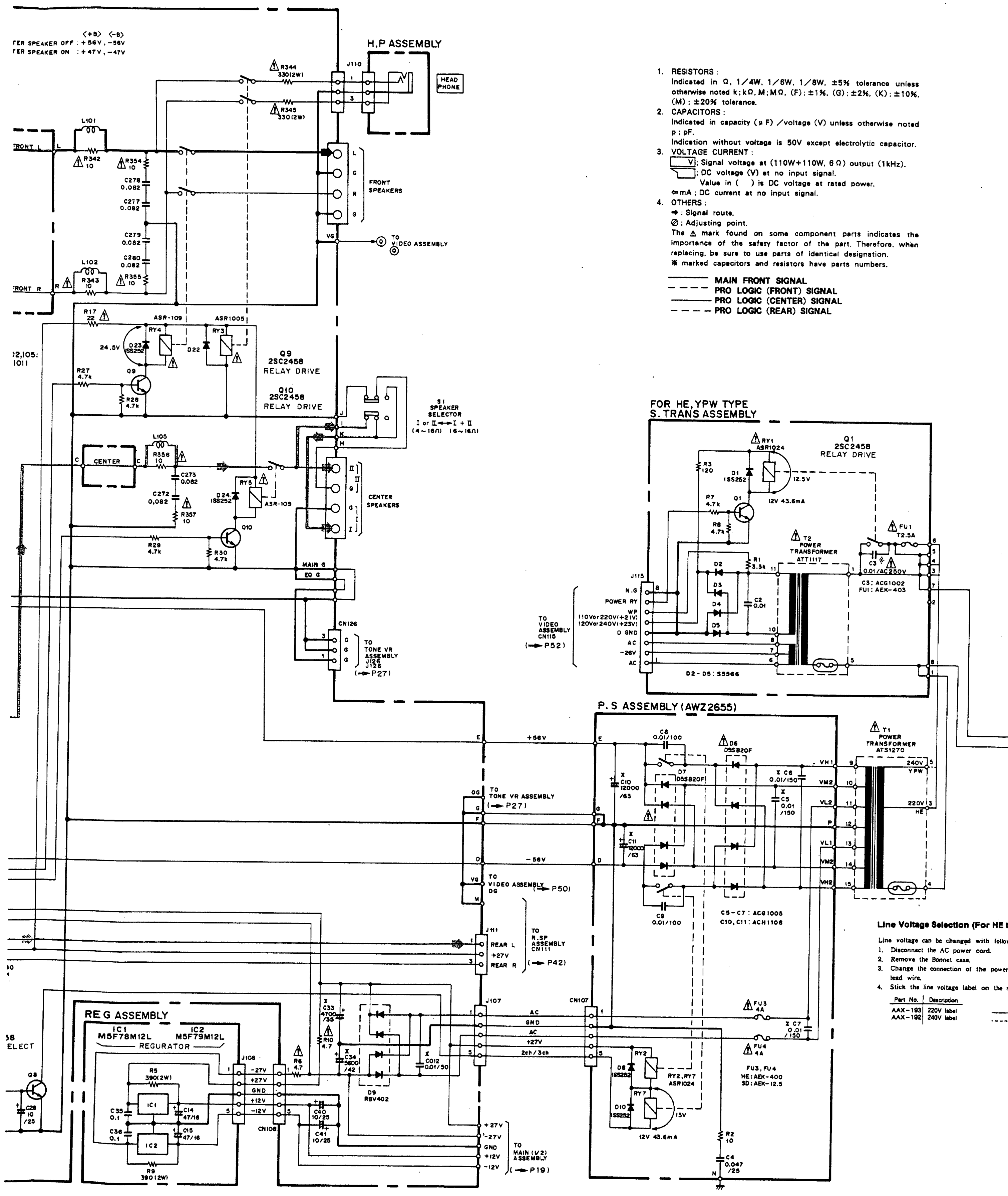
Line voltage can be changed with following steps.

1. Disconnect the AC power cord.
2. Remove the Bonnet case.
3. Change the connection of the power transformer lead wire.
4. Stick the line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label

——— 220V
-·-·-·- 240V

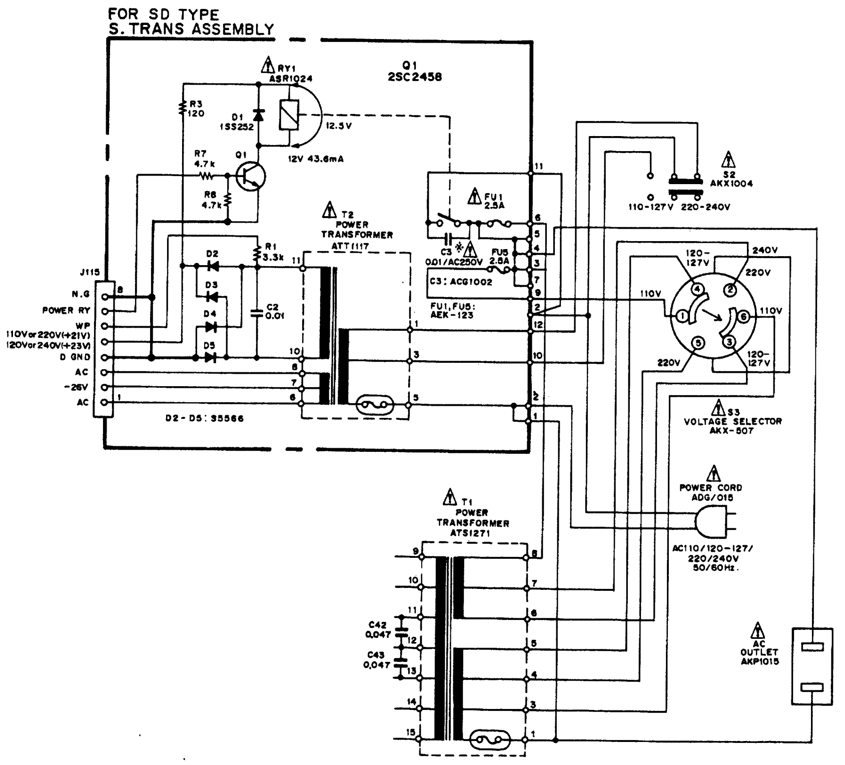
ES



H.P ASSEMBLY
HEAD PHONE
J110
R344 330(2W)
R345 330(2W)
L101
R342 10
R354 10
C278 0.082
C277 0.082
C279 0.082
C280 0.082
L102
R343 10
R355 10
FRONT L
FRONT R
FRONT SPEAKERS
TO VIDEO ASSEMBLY
SPEAKER OFF : +56V, -56V
SPEAKER ON : +47V, -47V
R17 22
ASR-109
ASR1005
RY4
RY3
D23 1SS252
D22
24.5V
Q9 2SC2458 RELAY DRIVE
Q10 2SC2458 RELAY DRIVE
R27 4.7k
R28 4.7k
S1 SPEAKER SELECTOR
I or II ⟶ I + II
(4~16Ω) (6~16Ω)
CENTER
L105
R356 10
C273 0.082
C272 0.082
R357 10
RY5
D24 1SS252
ASR-109
CENTER SPEAKERS
R29 4.7k
R30 4.7k
MAIN G
EQ G
CN126
TO TONE VR ASSEMBLY J126 J125 (⟶P27)
FOR HE, YPW TYPE
S. TRANS ASSEMBLY
RY1 ASR1024
Q1 2SC2458 RELAY DRIVE
R3 120
D1 1SS252
12.5V
12V 43.6mA
R7 4.7k
R8 4.7k
R1 3.3k
T2 POWER TRANSFORMER ATT1117
FU1 T2.5A
C3 0.01/AC250V
C3 : ACG1002
FU1 : AEK-403
C2 0.01
D2 D3 D4 D5
D2-D5 : SS566
J115
N.G
POWER RY
WP
110V or 220V (+21V)
120V or 240V (+23V)
D GND
AC
-26V
AC
TO VIDEO ASSEMBLY CN115 (⟶P52)
POWER CORD HE: ADG1021 YPW: ADG-064
AC220/240V 50/60Hz
P. S ASSEMBLY (AWZ2655)
+56V
C8 0.01/100
D6 DSSB20F
D7 DSSB20F
C10 12000/63
C11 12000/63
C6 0.01/150
C5 0.01/150
C9 0.01/100
C5-C7 : ACG1005
C10, C11 : ACH1108
T1 POWER TRANSFORMER ATS1270
VH1 VM2 VL2 P VL1 VM1 VH2
240V YPW
220V HE
TO TONE VR ASSEMBLY (⟶P27)
-56V
TO VIDEO ASSEMBLY D6 (⟶P50)
J111
REAR L
+27V
REAR R
TO R.SP ASSEMBLY CN111 (⟶P42)
J107
CN107
AC
GND
AC
+27V
2ch/3ch
FU3 4A
FU4 4A
C7 0.01/150
FU3, FU4
HE: AEK-400
SD: AEK-12.5
RY2
D8 1SS252
RY2, RY7 ASR1024
RY7
D10 1SS252
12V 43.6mA
13V
R2 10
C4 0.047/25
C33 4700/35
C34 5600/42
R10 4.7
D9 RBV402
C012 0.01/50
REG ASSEMBLY
IC1 M5F78M12L
IC2 M5F79M12L
REGURATOR
R5 390(2W)
R9 390(2W)
C35 0.1
C36 0.1
C14 47/16
C15 47/16
J108
-27V +27V GND +12V -12V
R6 4.7
CN108
C40 10/25
C41 10/25
+27V -27V GND +12V -12V
TO MAIN (2/2) ASSEMBLY (⟶P19)
Q8
C28 10/25

1. RESISTORS :
   Indicated in Ω, 1/4W, 1/6W, 1/8W, ±5% tolerance unless otherwise noted k; kΩ, M; MΩ, (F) ; ±1%, (G) ; ±2%, (K) ; ±10%, (M) ; ±20% tolerance.
2. CAPACITORS :
   Indicated in capacity (μF) /voltage (V) unless otherwise noted p ; pF.
   Indication without voltage is 50V except electrolytic capacitor.
3. VOLTAGE CURRENT :
   [V]; Signal voltage at (110W+110W, 6Ω) output (1kHz).
   ; DC voltage (V) at no input signal.
   Value in ( ) is DC voltage at rated power.
   ⇦mA ; DC current at no input signal.
4. OTHERS :
   ➡ : Signal route.
   ⊘ ; Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ✱ marked capacitors and resistors have parts numbers.

——— MAIN FRONT SIGNAL
– – – – PRO LOGIC (FRONT) SIGNAL
——— PRO LOGIC (CENTER) SIGNAL
– – – – PRO LOGIC (REAR) SIGNAL



FOR SD TYPE
S. TRANS ASSEMBLY
RY1 ASR1024
Q1 2SC2458
R3 120
D1 1SS252
12.5V
12V 43.6mA
R7 4.7k
R8 4.7k
R1 3.3k
T2 POWER TRANSFORMER ATT1117
FU1 2.5A
FU5 2.5A
C3 0.01/AC250V
C3 : ACG1002
FU1, FU5 : AEK-123
D2 D3 D4 D5
D2-D5 : SS566
C2 0.01
J115
N.G
POWER RY
WP
110V or 220V (+21V)
120V or 240V (+23V)
D GND
AC
-26V
AC
S2 AKX1004
110-127V 220-240V
110V
120-127V
240V
220V
110V
120-127V
220V
S3 VOLTAGE SELECTOR AKX-507
POWER CORD ADG/018
AC110/120-127/220/240V 50/60Hz
T1 POWER TRANSFORMER ATS1271
C42 0.047
C43 0.047
AC OUTLET AKP1015

Line Voltage Selection (For HE type)

Line voltage can be changed with following steps.

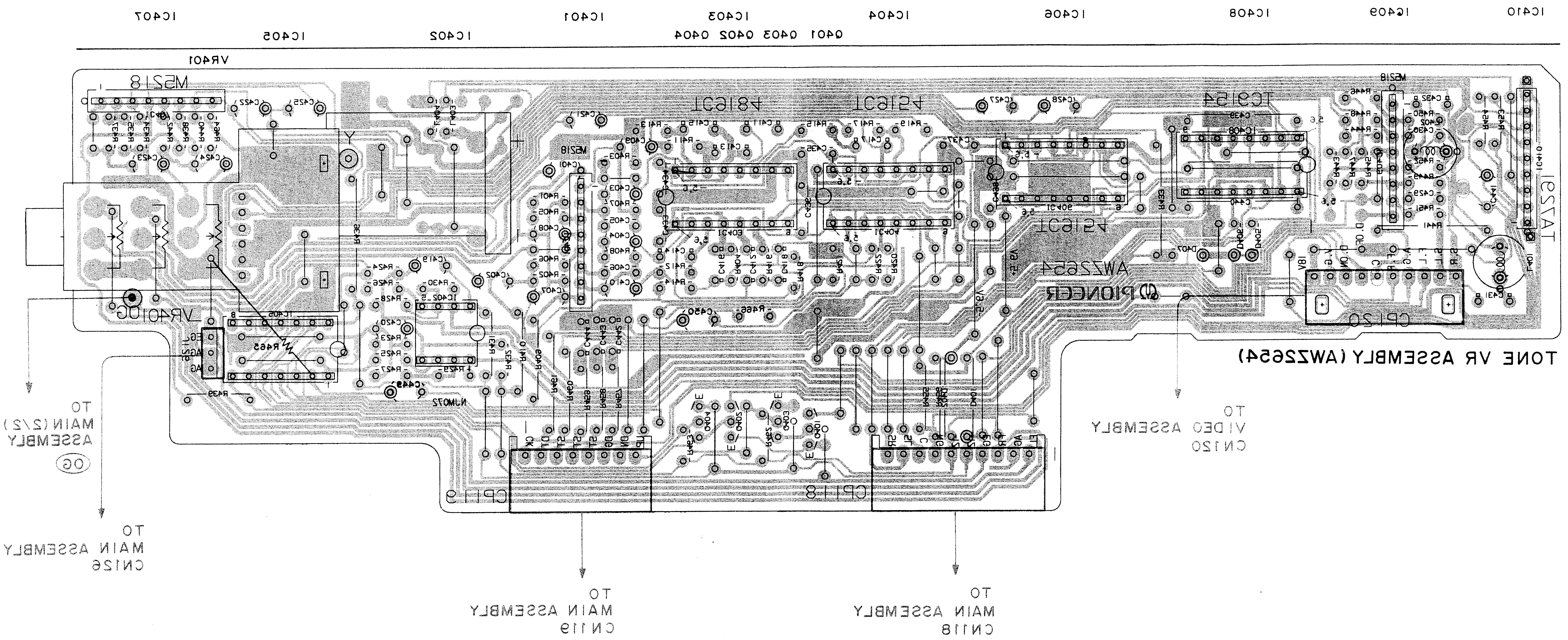
1. Disconnect the AC power cord.
2. Remove the Bonnet case.
3. Change the connection of the power transformer lead wire.
4. Stick the line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label

——— 220V
- - - - - 240V

3.5 P.C.BOARD PATTERN OF TONE VR ASSEMBLY

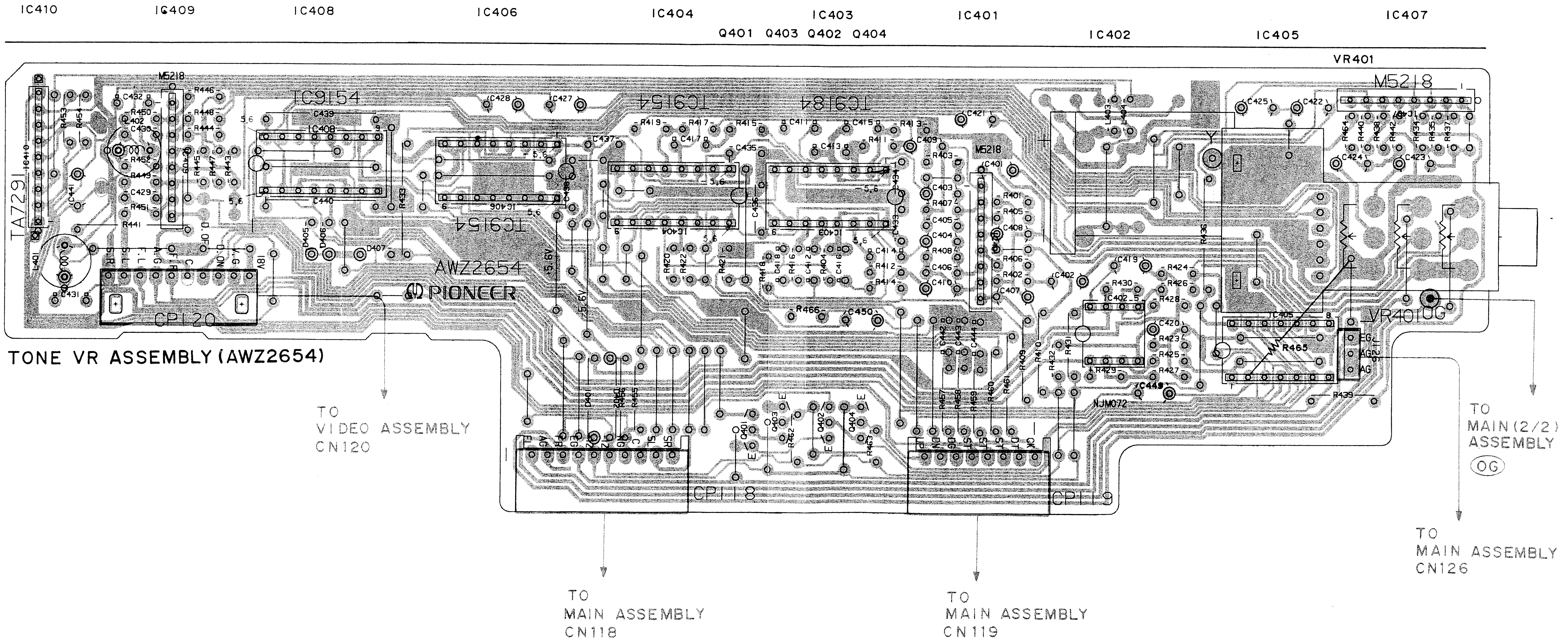
- View from soldering side


IC407
IC405
IC402
IC401
IC403
Q401 Q403 Q402 Q404
IC404
IC406
IC408
IC409
IC410
VR401
M5218
NJM072
PIONEER
AWZ2654
CP118
CP119
CP120
TO MAIN (2/2) ASSEMBLY
0G
TO MAIN ASSEMBLY CN126
TO MAIN ASSEMBLY CN119
TO MAIN ASSEMBLY CN118
TO VIDEO ASSEMBLY CN120

TONE VR ASSEMBLY (AWZ2654)

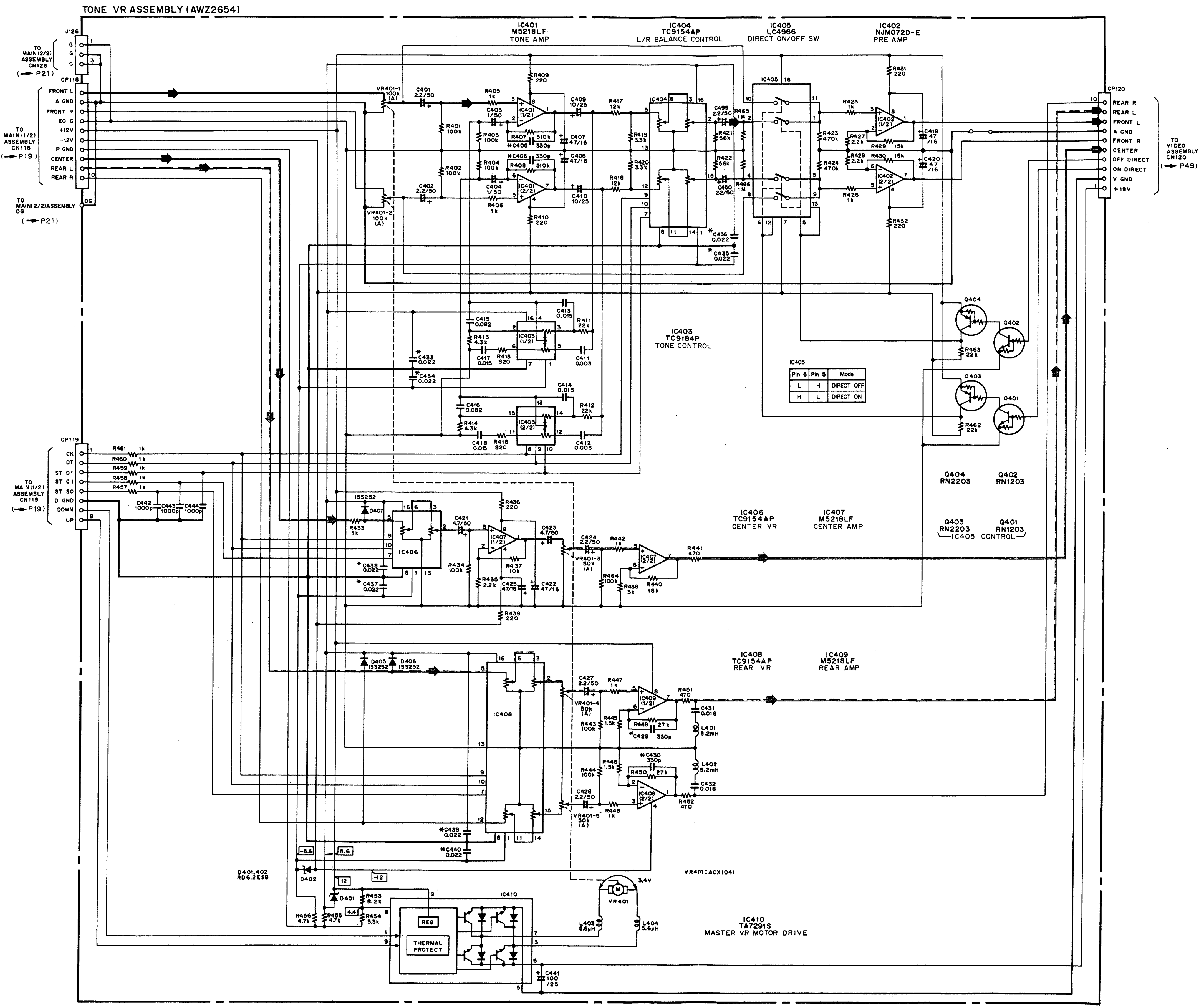
3.5 P.C.BOARD PATTERN OF TONE VR ASSEMBLY

- View from component side


IC410
IC409
IC408
IC406
IC404
IC403
IC401
IC402
IC405
IC407
Q401 Q403 Q402 Q404
VR401
M5218
TA7291
TC9154
TC9184
AWZ2654
PIONEER
CP120
CP118
CP119
VR401OG
R465
NJM072
TO VIDEO ASSEMBLY CN120
TO MAIN ASSEMBLY CN118
TO MAIN ASSEMBLY CN119
TO MAIN (2/2) ASSEMBLY
OG
TO MAIN ASSEMBLY CN126

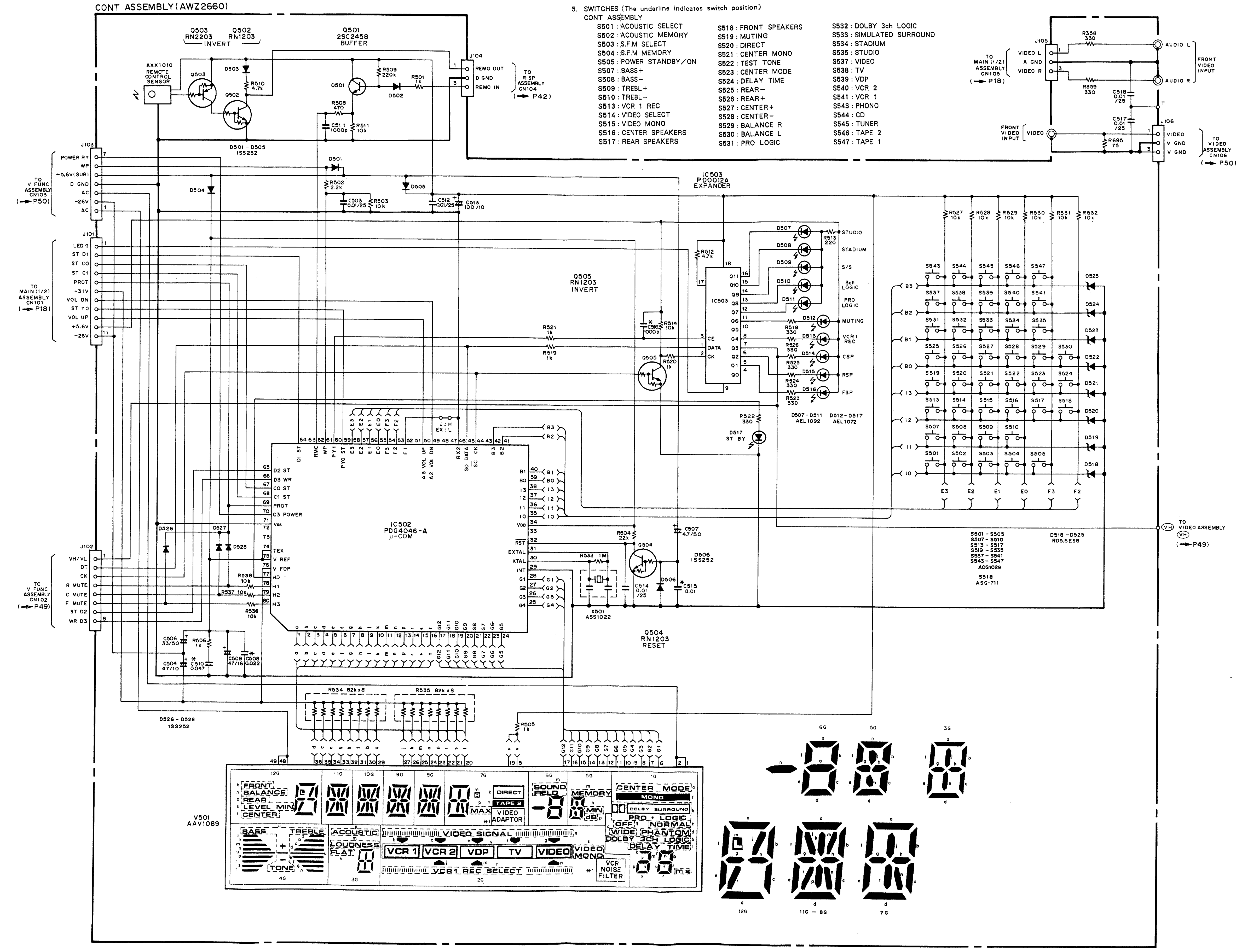
TONE VR ASSEMBLY (AWZ2654)

3.6 SCHEMATIC DIAGRAM OF TONE VR ASSEMBLY


TONE VR ASSEMBLY (AWZ2654)
IC401 M5218LF TONE AMP
IC404 TC9154AP L/R BALANCE CONTROL
IC405 LC4966 DIRECT ON/OFF SW
IC402 NJM072D-E PRE AMP
IC403 TC9184P TONE CONTROL
IC406 TC9154AP CENTER VR
IC407 M5218LF CENTER AMP
IC408 TC9154AP REAR VR
IC409 M5218LF REAR AMP
IC410 TA7291S MASTER VR MOTOR DRIVE
Q404 RN2203
Q402 RN1203
Q403 RN2203
Q401 RN1203
IC405 CONTROL
VR401:ACX1041
D401,402 RD6.2ESB
TO MAIN(2/2) ASSEMBLY CN126 (→P21)
TO MAIN(1/2) ASSEMBLY CN118 (→P19)
TO MAIN(2/2) ASSEMBLY OG (→P21)
TO MAIN(1/2) ASSEMBLY CN119 (→P19)
TO VIDEO ASSEMBLY CN120 (→P49)
J126
CP118
CP119
CP120
FRONT L
A GND
FRONT R
EQ G
+12V
−12V
P GND
CENTER
REAR L
REAR R
CK
DT
ST D1
ST C1
ST SO
D GND
DOWN
UP
REAR R
REAR L
FRONT L
A GND
FRONT R
CENTER
OFF DIRECT
ON DIRECT
V GND
+18V
THERMAL PROTECT
REG
3.4V
VR401

Pin 6	Pin 5	Mode
L	H	DIRECT OFF
H	L	DIRECT ON

3.7 SCHEMATIC DIAGRAM OF CONT ASSEMBLY


CONT ASSEMBLY (AWZ2660)
Q503 RN2203
Q502 RN1203
INVERT
Q501 2SC2458 BUFFER
AXX1010 REMOTE CONTROL SENSOR
D503
R510 4.7k
R509 220k
R501 1k
D502
R508 470
C511 1000p
R511 10k
D501 - D505 1SS252
J104
REMO OUT
D GND
REMO IN
TO R-SP ASSEMBLY CN104 (→ P42)
J103
POWER RY
WP
+5.6V (SUB)
D GND
AC
-26V
AC
TO V FUNC ASSEMBLY CN103 (→ P50)
D501
R502 2.2k
D504
D505
C503 0.01/25
R503 10k
C512 0.01/25
C513 100/10
J101
LED G
ST D1
ST C0
ST C1
PROT
-31V
VOL DN
ST Y0
VOL UP
+5.6V
-26V
TO MAIN (1/2) ASSEMBLY CN101 (→ P18)
IC503 PD0012A EXPANDER
R512 4.7k
D507
D508
D509
D510
D511
R513 220
STUDIO
STADIUM
S/S
3ch LOGIC
PRO LOGIC
D512
D513
D514
D515
D516
R518 330
R526 330
R525 330
R524 330
R523 330
MUTING
VCR1 REC
CSP
RSP
FSP
D507 - D511 AEL1092
D512 - D517 AEL1072
R522 330
D517 ST BY
Q505 RN1203 INVERT
R521 1k
R519 1k
R514 10k
C516 1000p
R520 1k
CE
DATA
CK
J105
VIDEO L
A GND
VIDEO R
TO MAIN (1/2) ASSEMBLY CN105 (→ P18)
R358 330
R359 330
AUDIO L
AUDIO R
FRONT VIDEO INPUT
C518 0.01/25
C517 0.01/25
J106
FRONT VIDEO INPUT
VIDEO
R695 75
V GND
TO VIDEO ASSEMBLY CN106 (→ P50)
R527 10k
R528 10k
R529 10k
R530 10k
R531 10k
R532 10k
S543
S544
S545
S546
S547
S537
S538
S539
S540
S541
S531
S532
S533
S534
S535
S525
S526
S527
S528
S529
S530
S519
S520
S521
S522
S523
S524
S513
S514
S515
S516
S517
S518
S507
S508
S509
S510
S501
S502
S503
S504
S505
D525
D524
D523
D522
D521
D520
D519
D518
B3
B2
B1
B0
I3
I2
I1
I0
E3
E2
E1
E0
F3
F2
S501 - S505
S507 - S510
S513 - S517
S519 - S535
S537 - S541
S543 - S547
ACG1029
S518 ASG-711
D518 - D525 RD5.6ESB
VH
TO VIDEO ASSEMBLY VH (→ P49)
IC502 PDG4046-A μ-COM
J: H
EX: L
D2 ST
D3 WR
C0 ST
C1 ST
PROT
C3 POWER
Vss
TEX
V REF
V FDP
HD
H1
H2
H3
VDD
RST
EXTAL
XTAL
INT
G1
G2
G3
G4
J102
VH/VL
DT
CK
R MUTE
C MUTE
F MUTE
ST D2
WR D3
TO V FUNC ASSEMBLY CN102 (→ P49)
D526
D527
D528
R538 10k
R537 10k
R536 10k
C506 33/50
R506 1k
C504 47/10
C510 0.047
C509 47/16
C508 0.022
D526 - D528 1SS252
R504 22k
C507 47/50
Q504
D506 1SS252
R533 1M
C514 0.01/25
C515 0.01
X501 ASS1022
Q504 RN1203 RESET
R534 82k × 8
R535 82k × 8
R505 1k
V501 AAV1089
FRONT
BALANCE
REAR
LEVEL MIN
CENTER
DIRECT
TAPE 2
MAX
VIDEO ADAPTOR
SOUND FIELD
MEMORY
MIN
dB
CENTER MODE
MONO
DOLBY SURROUND
PRO LOGIC
OFF
NORMAL
WIDE
PHANTOM
DOLBY 3CH LOGIC
DELAY TIME
BASS
TREBLE
TONE
ACOUSTIC
LOUDNESS
FLAT
VIDEO SIGNAL
VCR 1
VCR 2
VDP
TV
VIDEO
VIDEO MONO
VCR1 REC SELECT
VCR NOISE FILTER
mS
12G
11G
10G
9G
8G
7G
6G
5G
4G
3G
2G
1G
11G - 8G
A
B
C
D
1
2
3
4
5
6

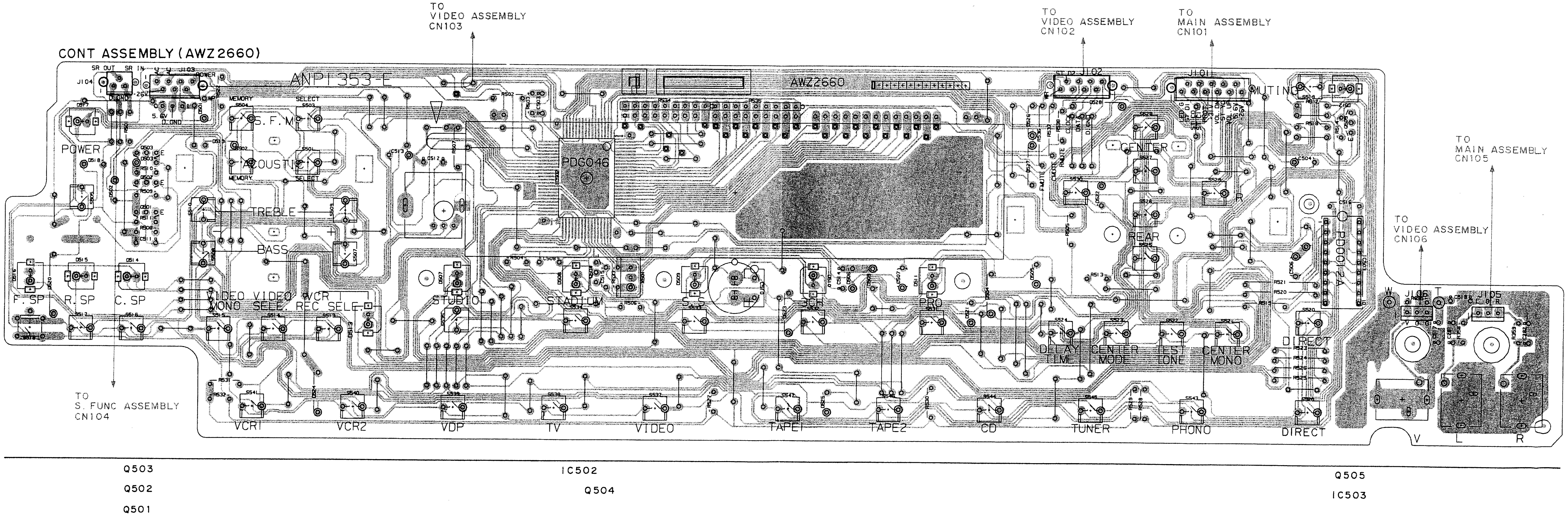
5. SWITCHES (The underline indicates switch position)

CONT ASSEMBLY

S501 : ACOUSTIC SELECT
S502 : ACOUSTIC MEMORY
S503 : S.F.M SELECT
S504 : S.F.M MEMORY
S505 : POWER STANDBY/ON
S507 : BASS+
S508 : BASS−
S509 : TREBL+
S510 : TREBL−
S513 : VCR 1 REC
S514 : VIDEO SELECT
S515 : VIDEO MONO
S516 : CENTER SPEAKERS
S517 : REAR SPEAKERS
S518 : FRONT SPEAKERS
S519 : MUTING
S520 : DIRECT
S521 : CENTER MONO
S522 : TEST TONE
S523 : CENTER MODE
S524 : DELAY TIME
S525 : REAR−
S526 : REAR+
S527 : CENTER+
S528 : CENTER−
S529 : BALANCE R
S530 : BALANCE L
S531 : PRO LOGIC
S532 : DOLBY 3ch LOGIC
S533 : SIMULATED SURROUND
S534 : STADIUM
S535 : STUDIO
S537 : VIDEO
S538 : TV
S539 : VDP
S540 : VCR 2
S541 : VCR 1
S543 : PHONO
S544 : CD
S545 : TUNER
S546 : TAPE 2
S547 : TAPE 1

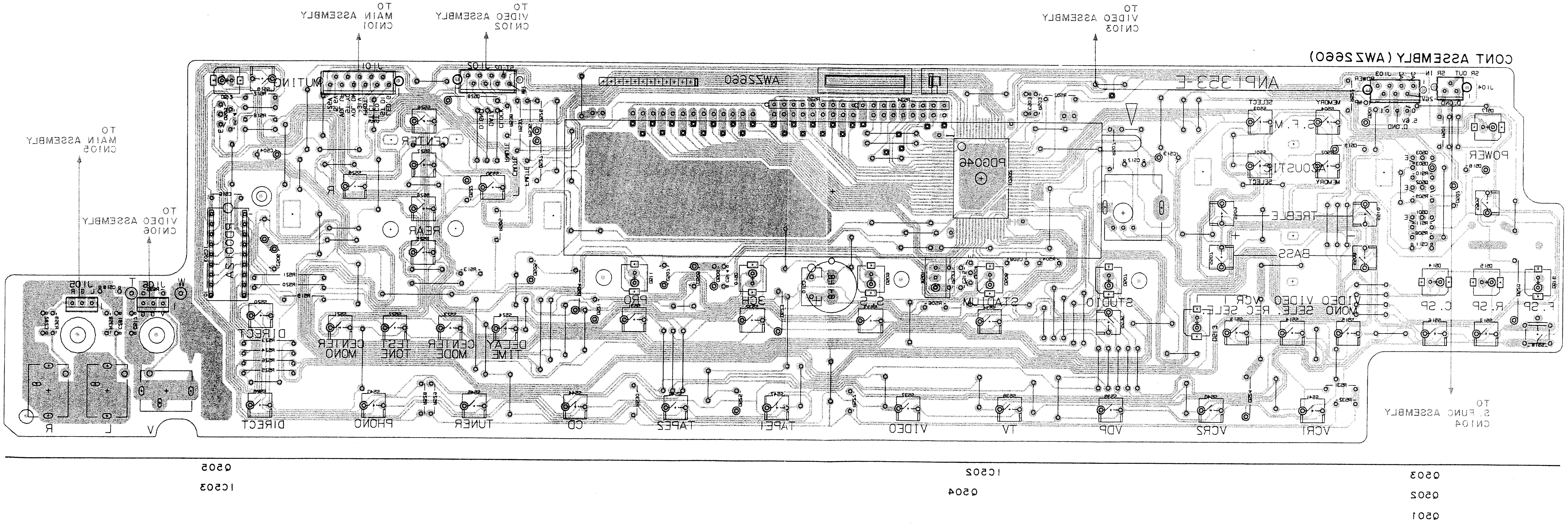
3.8 P.C.BOARD PATTERN OF CONT ASSEMBLY

- View from component side


TO
VIDEO ASSEMBLY
CN103
TO
VIDEO ASSEMBLY
CN102
TO
MAIN ASSEMBLY
CN101
TO
MAIN ASSEMBLY
CN105
TO
VIDEO ASSEMBLY
CN106
TO
S. FUNC ASSEMBLY
CN104
CONT ASSEMBLY (AWZ2660)
ANP1353-E
AWZ2660
PDG046
PDD012A
J104
J103
J102
J101
J106
J105
POWER
S.F.M
ACOUSTIC
TREBLE
BASS
F.SP
R.SP
C.SP
VIDEO MONO
VIDEO SELE
VCR REC SELE
STUDIO
STADIUM
S.S
PRO
MUTING
CENTER
REAR
DELAY TIME
CENTER MODE
TEST TONE
CENTER MONO
DIRECT
VCR1
VCR2
VDP
TV
VIDEO
TAPE1
TAPE2
CD
TUNER
PHONO
DIRECT
V
L
R
Q503
Q502
Q501
IC502
Q504
Q505
IC503

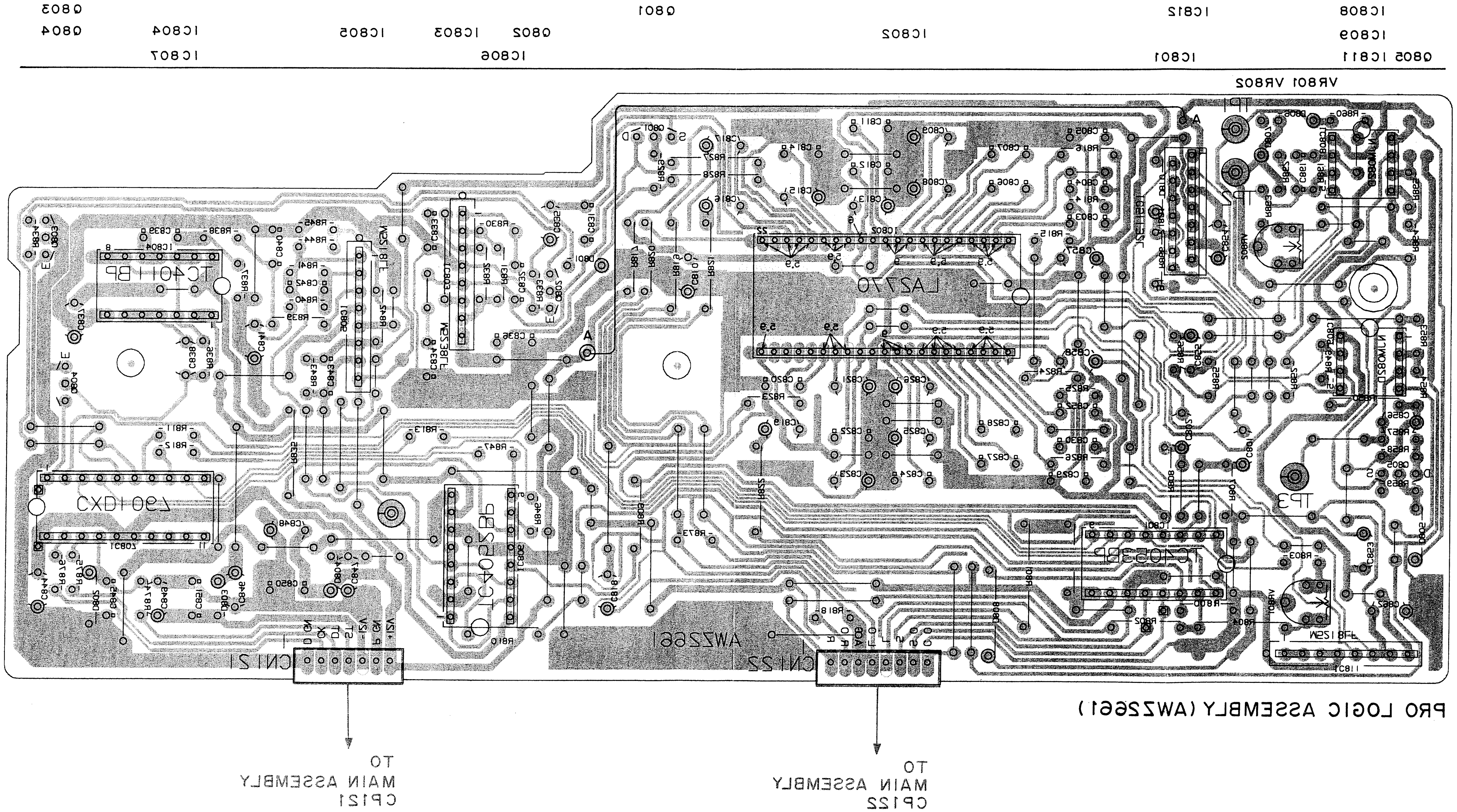
3.8 P.C.BOARD PATTERN OF CONT ASSEMBLY

- View from soldering side


TO MAIN ASSEMBLY CN101
TO VIDEO ASSEMBLY CN102
TO VIDEO ASSEMBLY CN103
CONT ASSEMBLY (AWZ2660)
TO MAIN ASSEMBLY CN105
TO VIDEO ASSEMBLY CN106
TO S.FUNC ASSEMBLY CN104
AWZ2660
ANP1353-E
PDG046
MUTING
CENTER
REAR
R
DIRECT
CENTER MONO
TEST TONE
CENTER MODE
DELAY TIME
PRO
3CH
CLUB
STADIUM
STUDIO
VIDEO SELE.
VCR REC SELE.
VIDEO MONO
C.SP
R.SP
F.SP
S.F.M
ACOUSTIC
SELECT
MEMORY
POWER
TREBLE
BASS
DIRECT
PHONO
TUNER
CD
TAPE2
TAPE1
VIDEO
TV
VDP
VCR2
VCR1
R
L
V
J105
J106
J101
J102
J103
J104
Q505
IC503
IC502
Q504
Q503
Q502
Q501

3.9 P.C.BOARD PATTERN OF PRO-LOGIC ASSEMBLY

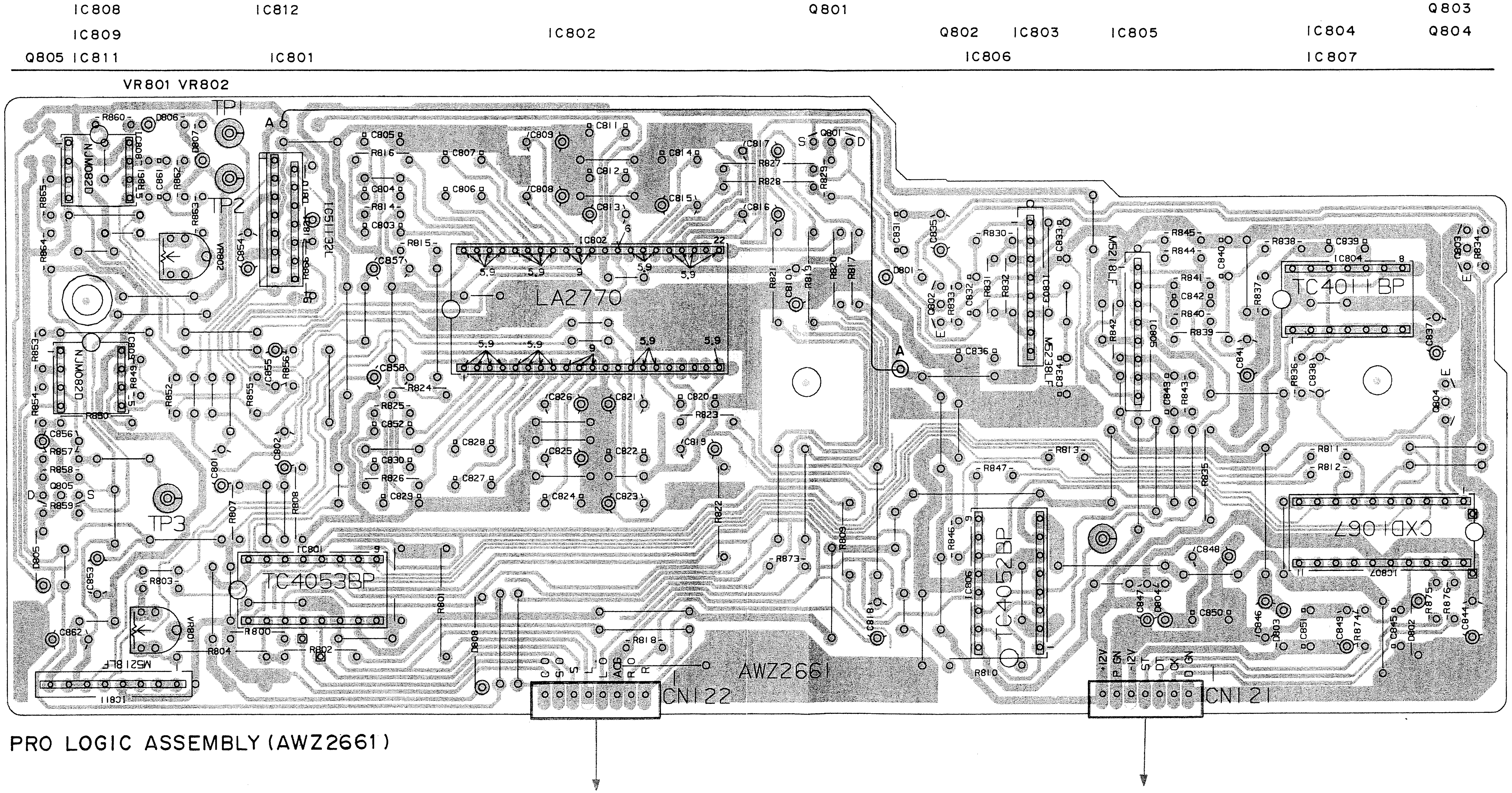
- View from soldering side


Q803
Q804
IC804
IC807
IC805
IC803
Q802
IC806
Q801
IC802
IC812
IC801
IC808
IC809
Q805 IC811
VR801 VR802
TC4011BP
LA2770
TC4052BP
TC4053BP
AWZ2661
CN121
CN122
TP3
A
TO MAIN ASSEMBLY CP121
TO MAIN ASSEMBLY CP122

PRO LOGIC ASSEMBLY (AWZ2661)

3.9 P.C.BOARD PATTERN OF PRO-LOGIC ASSEMBLY

- View from component side

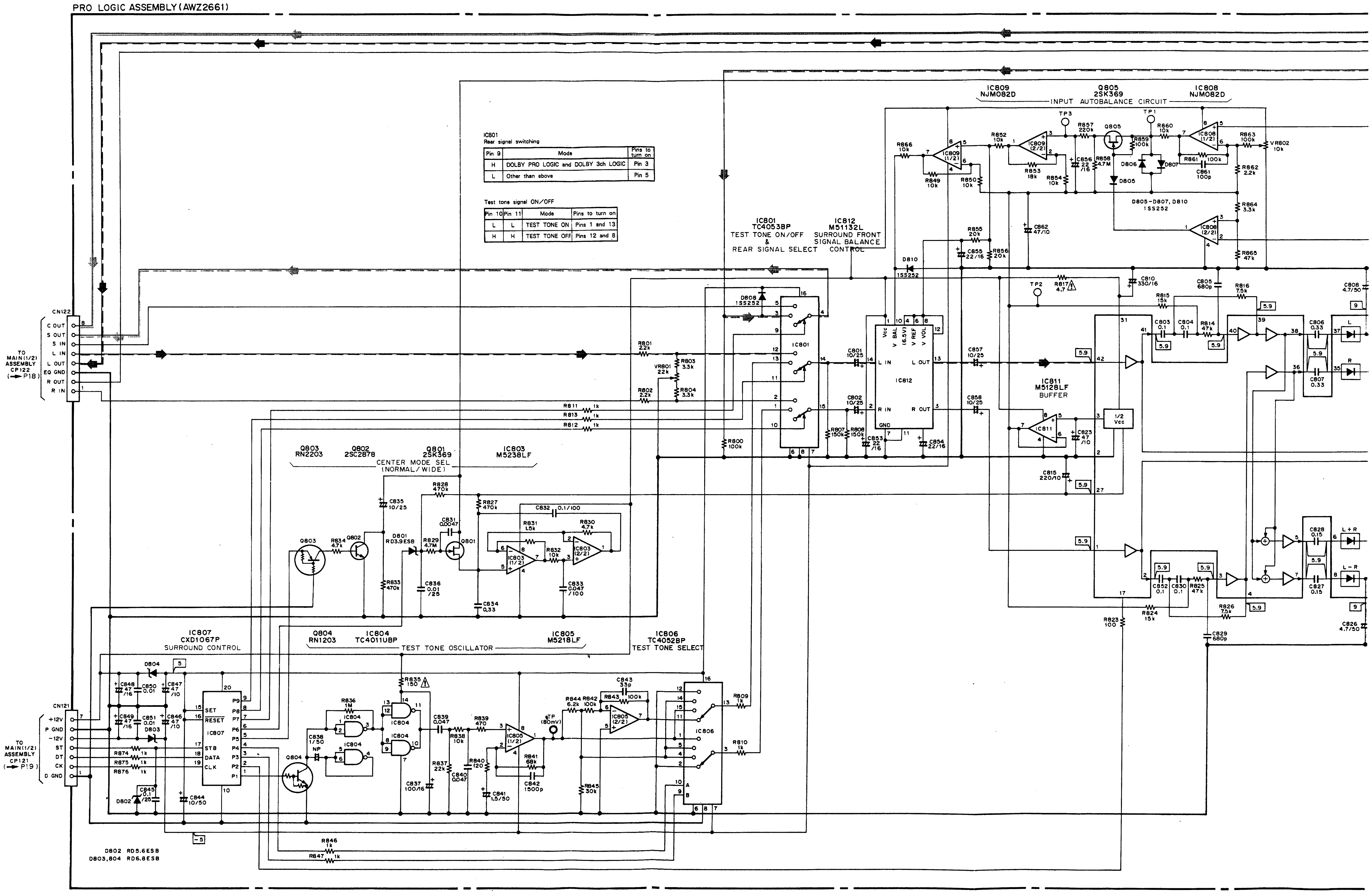

IC808
IC809
Q805 IC811
IC812
IC801
IC802
Q801
Q802
IC803
IC806
IC805
IC804
IC807
Q803
Q804
VR801 VR802
TP1
TP2
TP3
NJM082D
NJM082D
IC5113ZL
LA2770
TC4053BP
TC4052BP
TC4011BP
CXD1067
M5218L
M5218LF
M5238LF
AWZ2661
CN122
CN121
+12V
GND
-12V
ST
DT
CK
DN

PRO LOGIC ASSEMBLY (AWZ2661)

TO
MAIN ASSEMBLY
CP122

TO
MAIN ASSEMBLY
CP121

3.10 SCHEMATIC DIAGRAM OF PRO-LOGIC ASSEMBLY



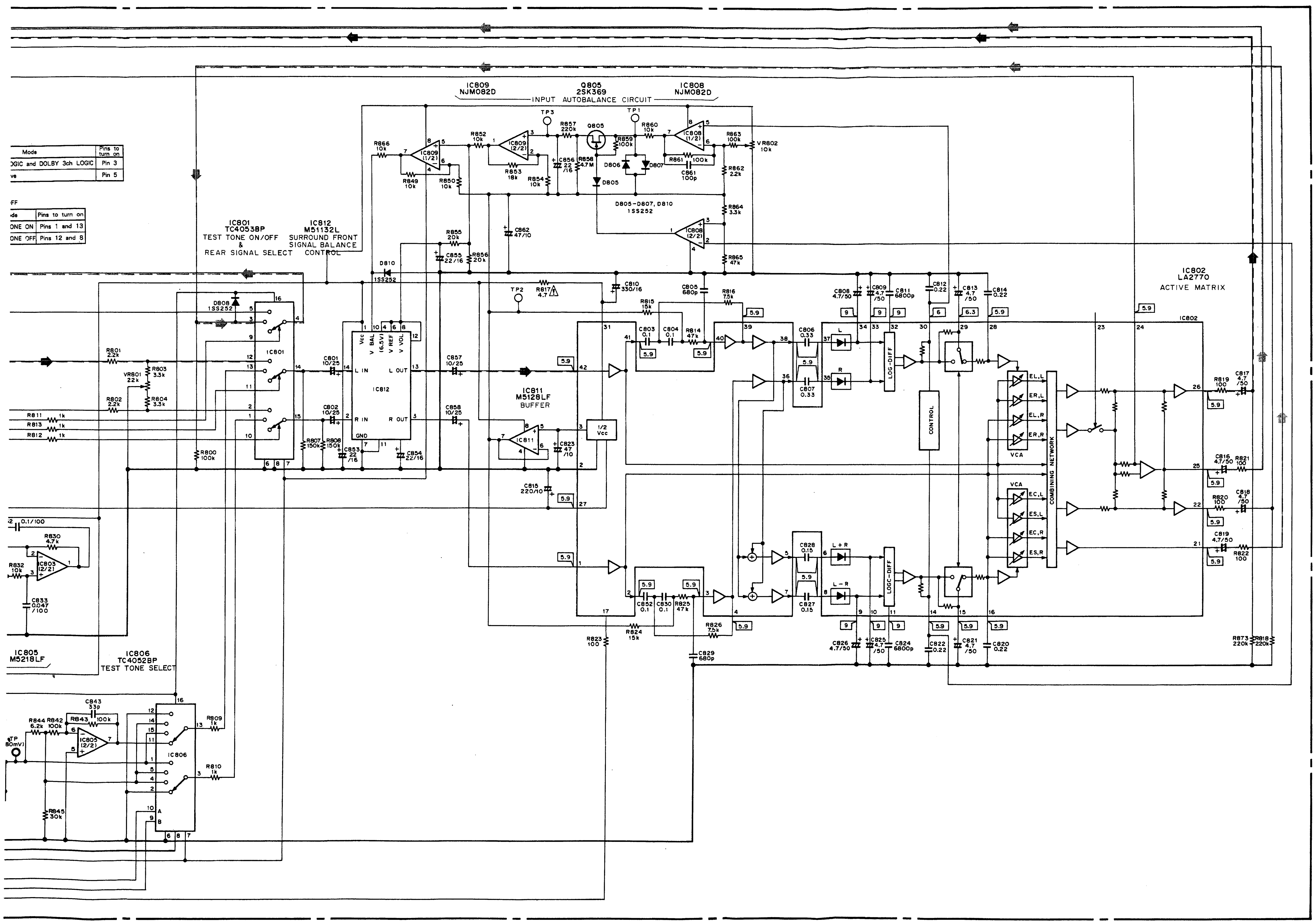
IC801
Rear signal switching

Pin 9	Mode	Pins to turn on
H	DOLBY PRO LOGIC and DOLBY 3ch LOGIC	Pin 3
L	Other than above	Pin 5

Test tone signal ON/OFF

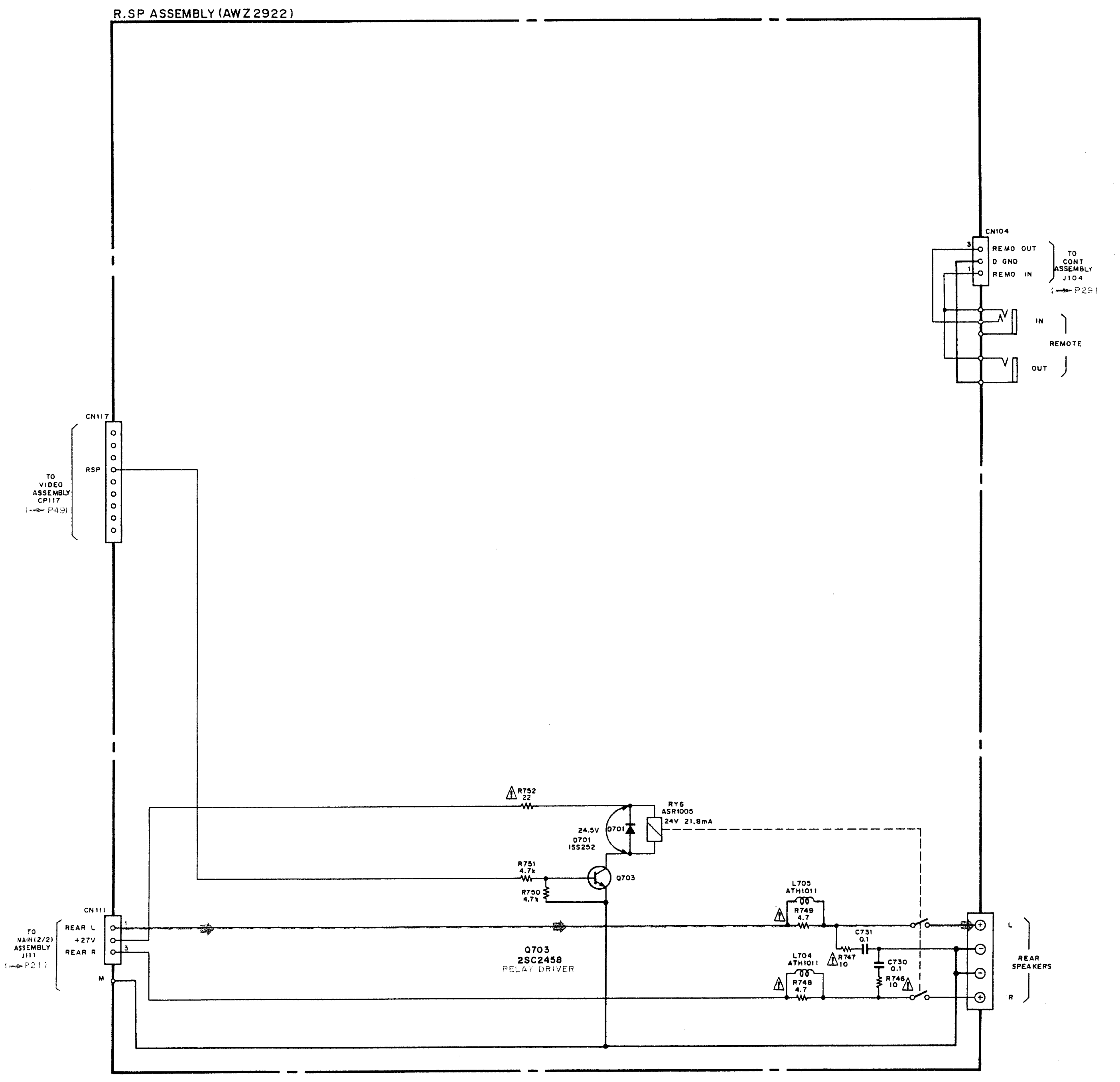
Pin 10	Pin 11	Mode	Pins to turn on
L	L	TEST TONE ON	Pins 1 and 13
H	H	TEST TONE OFF	Pins 12 and 8

A
B
C
D
PRO LOGIC ASSEMBLY (AWZ2661)
CN122
C OUT
S OUT
S IN
L IN
L OUT
EQ GND
R OUT
R IN
TO MAIN (1/2) ASSEMBLY CP122 (→P18)
CN121
+12V
P GND
−12V
ST
DT
CK
D GND
TO MAIN (1/2) ASSEMBLY CP121 (→P19)
IC809 NJM082D
Q805 2SK369
IC808 NJM082D
INPUT AUTOBALANCE CIRCUIT
TP3
TP1
TP2
D805−D807, D810 1SS252
IC801 TC4053BP TEST TONE ON/OFF & REAR SIGNAL SELECT
IC812 M51132L SURROUND FRONT SIGNAL BALANCE CONTROL
IC811 M5128LF BUFFER
1/2 Vcc
Q803 RN2203
Q802 2SC2878
Q801 2SK369
IC803 M5238LF
CENTER MODE SEL (NORMAL/WIDE)
D801 RD3.9ESB
IC807 CXD1067P SURROUND CONTROL
Q804 RN1203
IC804 TC4011UBP
IC805 M5218LF
TEST TONE OSCILLATOR
IC806 TC4052BP TEST TONE SELECT
TP (80mV)
D802 RD5.6ESB
D803,804 RD6.8ESB
SET
RESET
STB
DATA
CLK
L IN
L OUT
R IN
R OUT
GND
Vcc
V BAL
(6.5V)
V REF
V VOL
VR801 22k
VR802 10k
L
R
L+R
L−R
5.9
9
5
−5


IC809 NJM082D
Q805 2SK369
IC808 NJM082D
INPUT AUTOBALANCE CIRCUIT
TP3
TP1
TP2
D805–D807, D810 1SS252
IC801 TC4053BP TEST TONE ON/OFF & REAR SIGNAL SELECT
IC812 M51132L SURROUND FRONT SIGNAL BALANCE CONTROL
IC811 M5128LF BUFFER
IC802 LA2770 ACTIVE MATRIX
IC805 M5218LF
IC806 TC4052BP TEST TONE SELECT
Mode
Pins to turn on
DOLBY 3ch LOGIC
Pin 3
Pin 5
Pins to turn on
ONE ON
Pins 1 and 13
ONE OFF
Pins 12 and 8
R866 10k
R852 10k
R857 220k
R859 100k
R860 10k
R863 100k
VR802 10k
R849 10k
R850 10k
R853 18k
R854 10k
C856 22/16
R858 4.7M
D806
D807
D805
C861 100p
R861 100k
R862 2.2k
R864 3.3k
R865 47k
C862 47/10
R855 20k
R856 20k
C855 22/16
D810 1SS252
R817 4.7
C810 330/16
C805 680p
R815 15k
R816 7.5k
D808 1SS252
R801 2.2k
VR801 22k
R803 3.3k
R804 3.3k
R802 2.2k
R811 1k
R813 1k
R812 1k
R800 100k
R807 150k
R808 150k
C853 22/16
C854 22/16
C801 10/25
C802 10/25
C857 10/25
C858 10/25
C823 47/10
C815 220/10
1/2 Vcc
C803 0.1
C804 0.1
R814 47k
C806 0.33
C807 0.33
C808 4.7/50
C809 4.7/50
C811 6800p
C812 0.22
C813 4.7/50
C814 0.22
LOG-DIFF
CONTROL
COMBINING NETWORK
VCA
EL,L
ER,L
EL,R
ER,R
EC,L
ES,L
EC,R
ES,R
L
R
L+R
L−R
C828 0.15
C827 0.15
C852 0.1
C830 0.1
R825 47k
R826 7.5k
R824 15k
R823 100
C829 680p
C826 4.7/50
C825 4.7/50
C824 6800p
C822 0.22
C821 4.7/50
C820 0.22
R819 100
C817 4.7/50
C816 4.7/50
R821 100
R820 100
C818 4.7/50
C819 4.7/50
R822 100
R873 220k
R818 220k
5.9
6.3
9
6
0.1/100
R830 4.7k
IC803 (2/2)
R832 10k
C833 0.047/100
C843 33p
R843 100k
R844 6.2k
R842 100k
IC805 (2/2)
TP 80mV
R845 30k
R809 1k
R810 1k

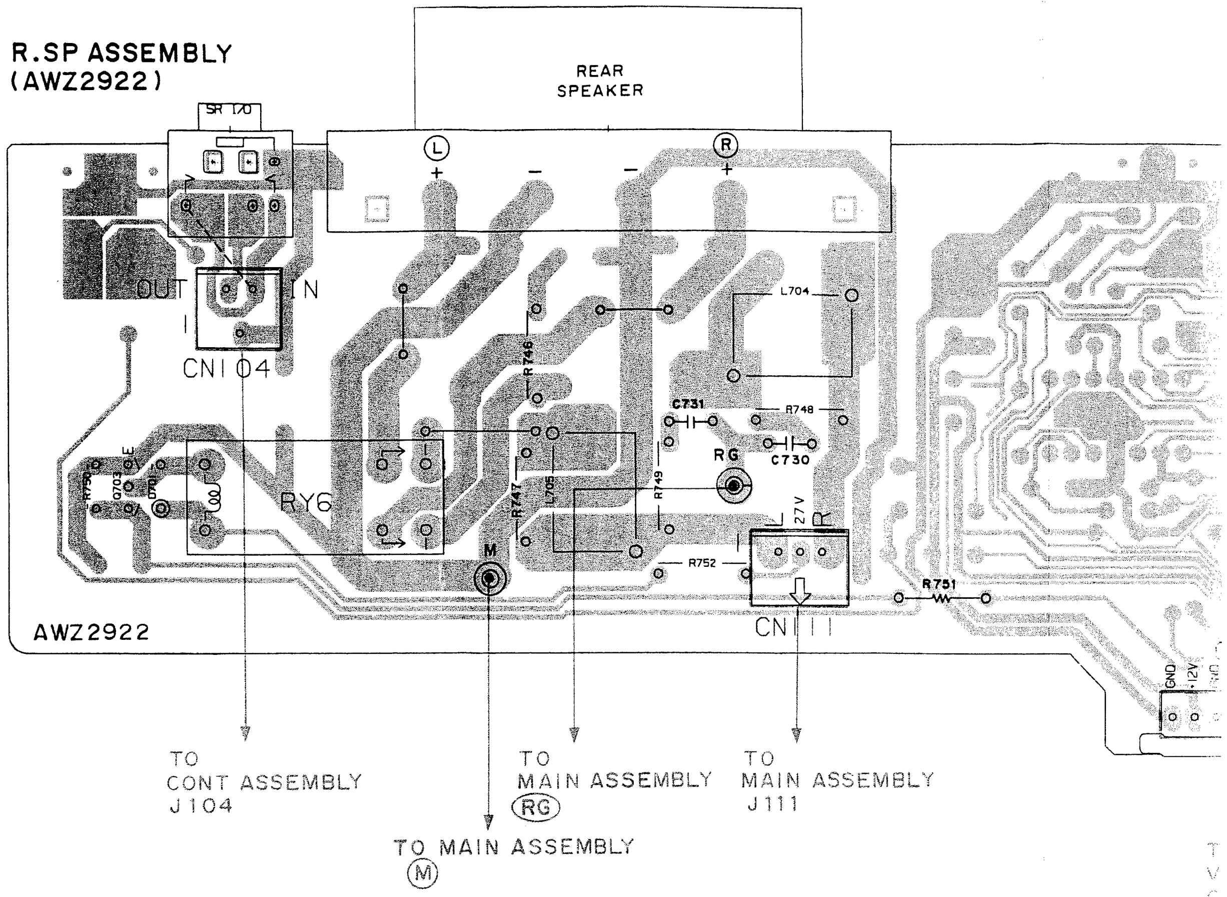
A
B
C
D

3.11 SCHEMATIC DIAGRAM OF R.SP ASSEMBLY

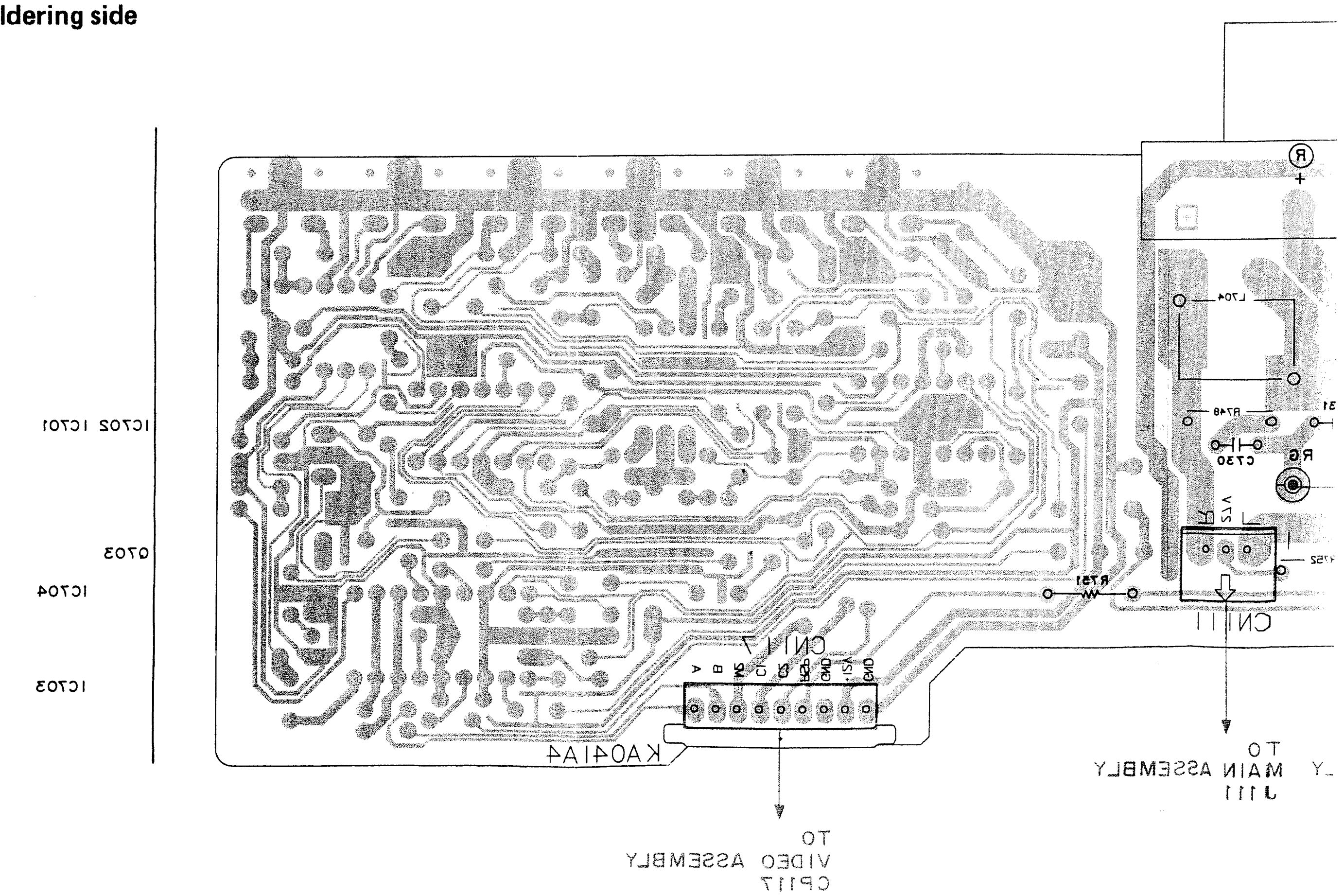

R.SP ASSEMBLY (AWZ 2922)
CN104
REMO OUT
D GND
REMO IN
TO CONT ASSEMBLY J104 (→ P29)
IN
REMOTE
OUT
CN117
RSP
TO VIDEO ASSEMBLY CP117 (→ P49)
R752 22
RY6 ASR1005 24V 21.8mA
24.5V
D701 1SS252
R751 4.7k
R750 4.7k
Q703
L705 ATH1011
R749 4.7
C731 0.1
R747 10
L704 ATH1011
R748 4.7
C730 0.1
R746 10
CN111
REAR L
+27V
REAR R
M
TO MAIN(2/2) ASSEMBLY J111 (→ P21)
Q703 2SC2458 RELAY DRIVER
L
R
REAR SPEAKERS

3.12 P.C.BOARD PATTERN OF R.SP ASSEMBLY

- **View from component side**

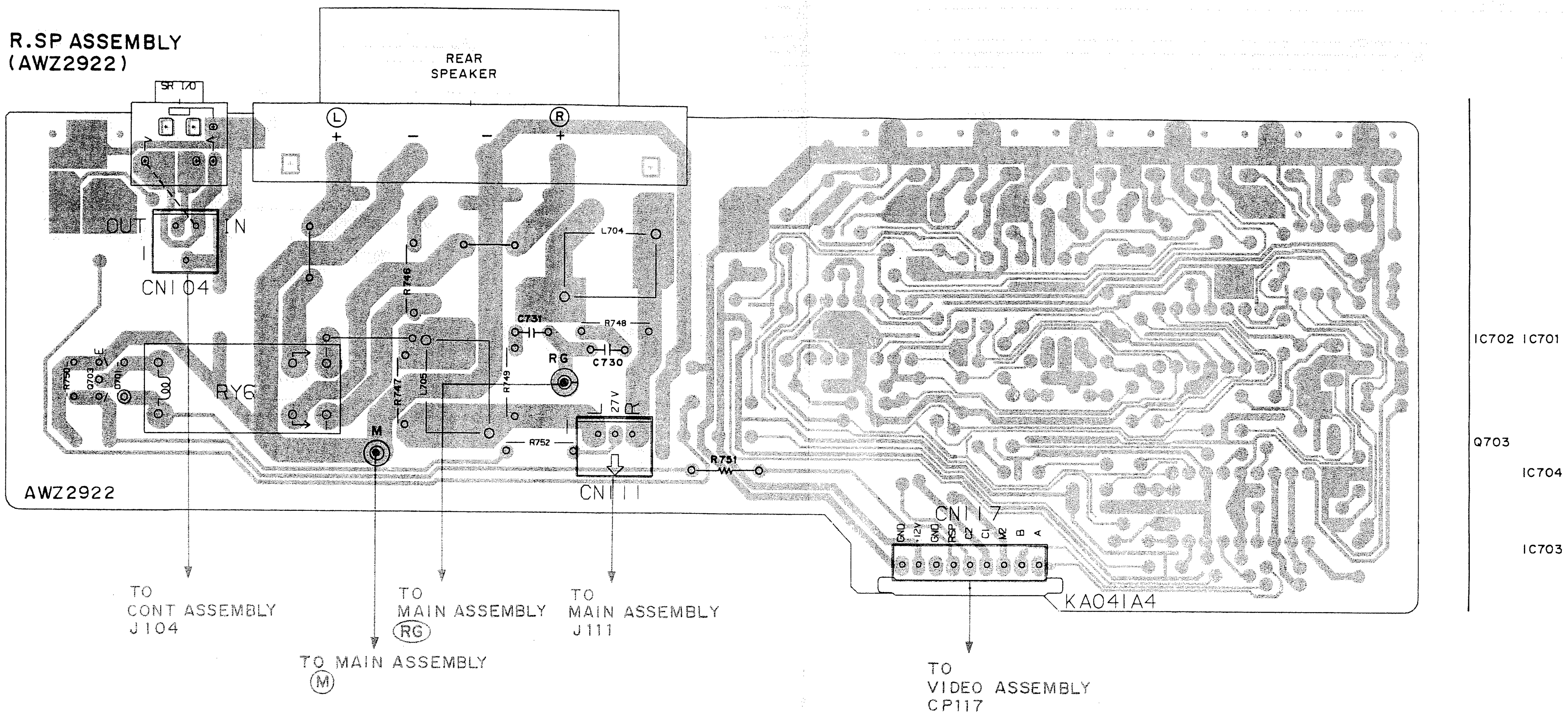

R.SP ASSEMBLY (AWZ2922)
REAR SPEAKER
L
R
+
−
OUT
IN
CN104
L704
R746
C731
R748
C730
RG
R749
R747
L705
RY6
Q703
M
27V
R752
R751
CN111
AWZ2922
TO CONT ASSEMBLY J104
TO MAIN ASSEMBLY RG
TO MAIN ASSEMBLY J111
TO MAIN ASSEMBLY M

- **View from soldering side**

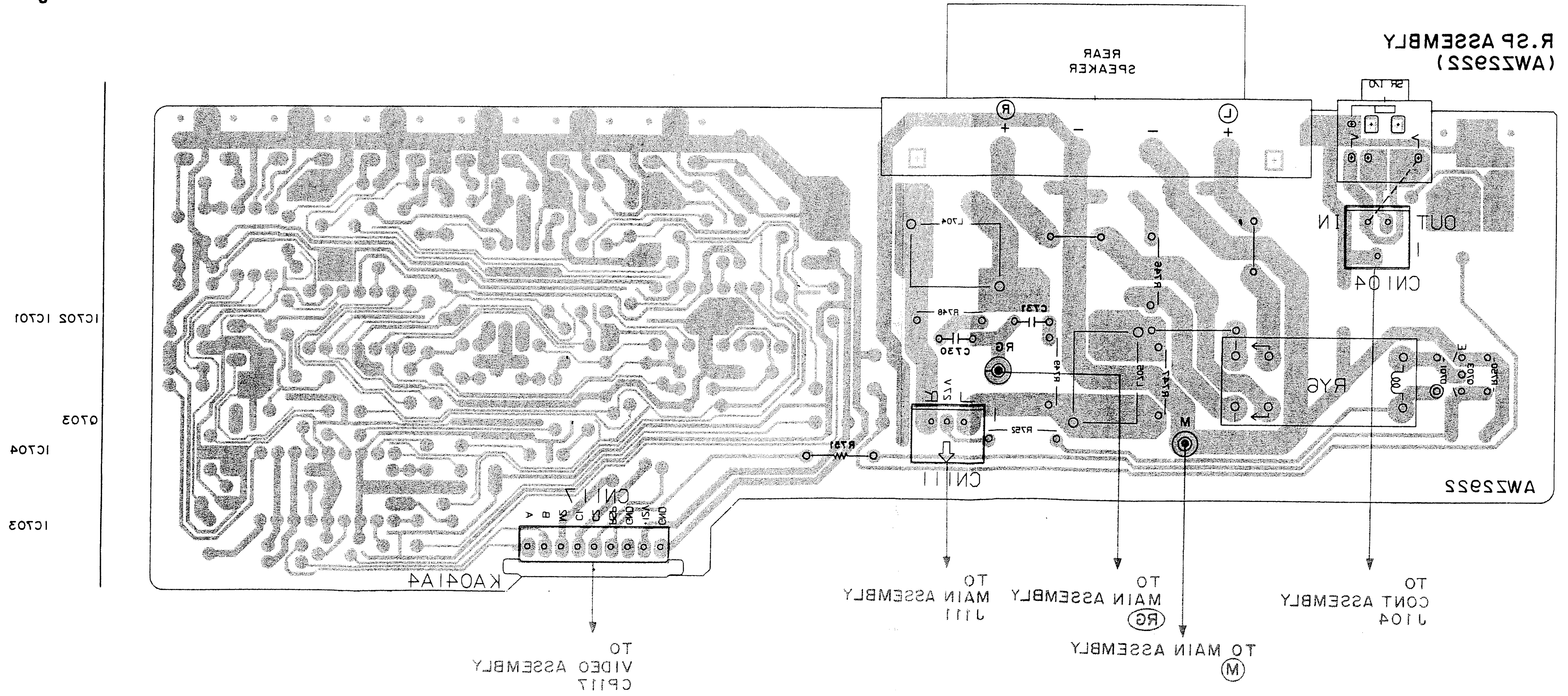

IC702 IC701
Q703
IC704
IC703
CN117
V
B
SW
CN
CS
GND
+5V
GND
KA0414
R
L704
R748
C730
RG
27V
R751
CN111
TO MAIN ASSEMBLY J111
TO VIDEO ASSEMBLY CP117

3.12 P.C.BOARD PATTERN OF R.SP ASSEMBLY

- **View from component side**


R.SP ASSEMBLY
(AWZ2922)
REAR
SPEAKER
SR170
OUT IN
CN104
RY6
L704
R746
R748
C731
C730
RG
R747
L705
R749
27V
M
R752
R751
CN111
CN117
GND 12V GND RSP C2 C1 M2 B A
KA041A4
AWZ2922
IC702 IC701
Q703
IC704
IC703
TO
CONT ASSEMBLY
J104
TO
MAIN ASSEMBLY
RG
TO
MAIN ASSEMBLY
J111
TO MAIN ASSEMBLY
M
TO
VIDEO ASSEMBLY
CP117

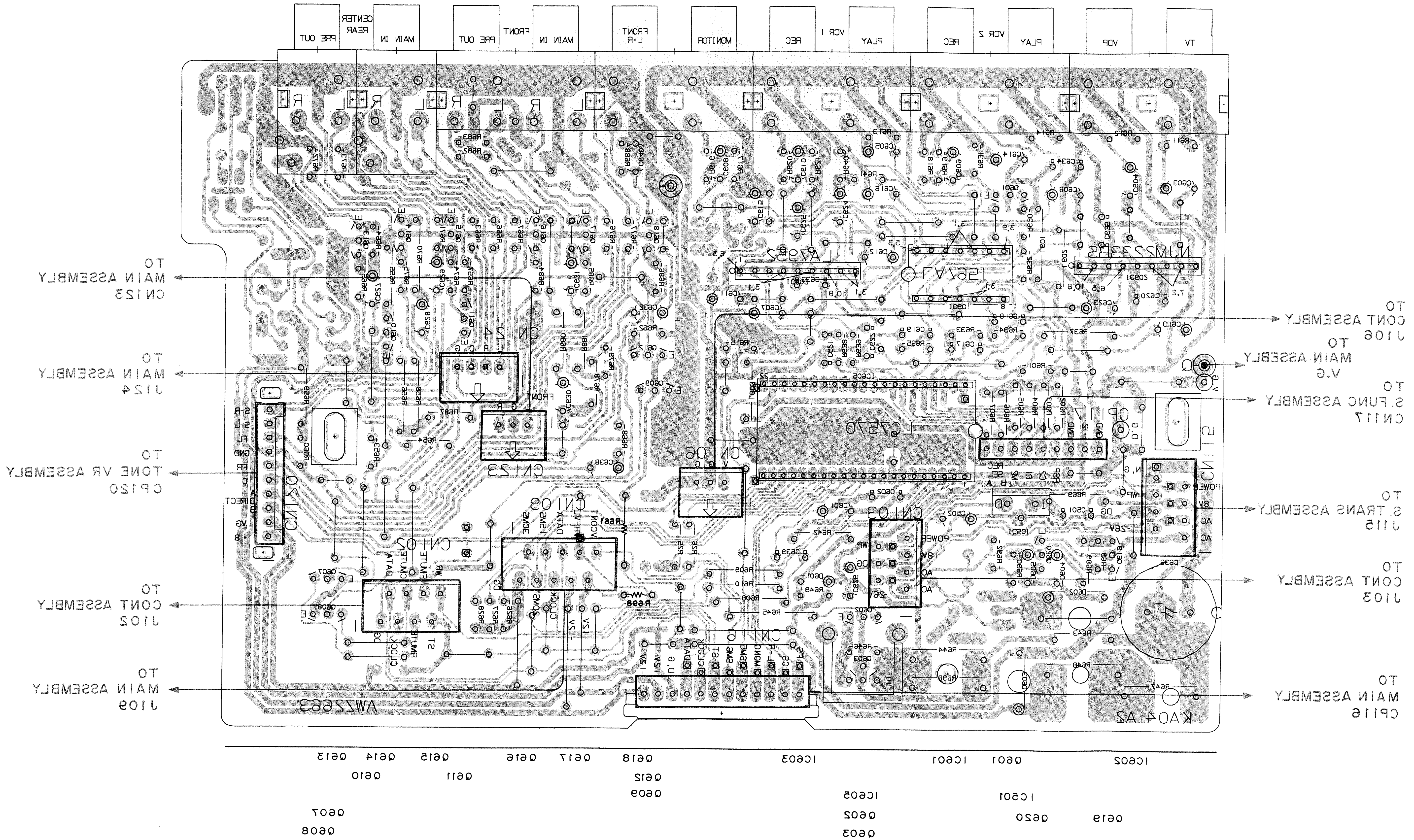
- **View from soldering side**


R.SP ASSEMBLY
(AWZ2922)
REAR
SPEAKER
CN104
RY6
CN111
CN117
KA041A4
AWZ2922
IC702 IC701
Q703
IC704
IC703
TO
VIDEO ASSEMBLY
CP117
TO
MAIN ASSEMBLY
J111
TO
MAIN ASSEMBLY
RG
TO MAIN ASSEMBLY
M
TO
CONT ASSEMBLY
J104

3.13 P.C.BOARD PATTERN OF VIDEO ASSEMBLY

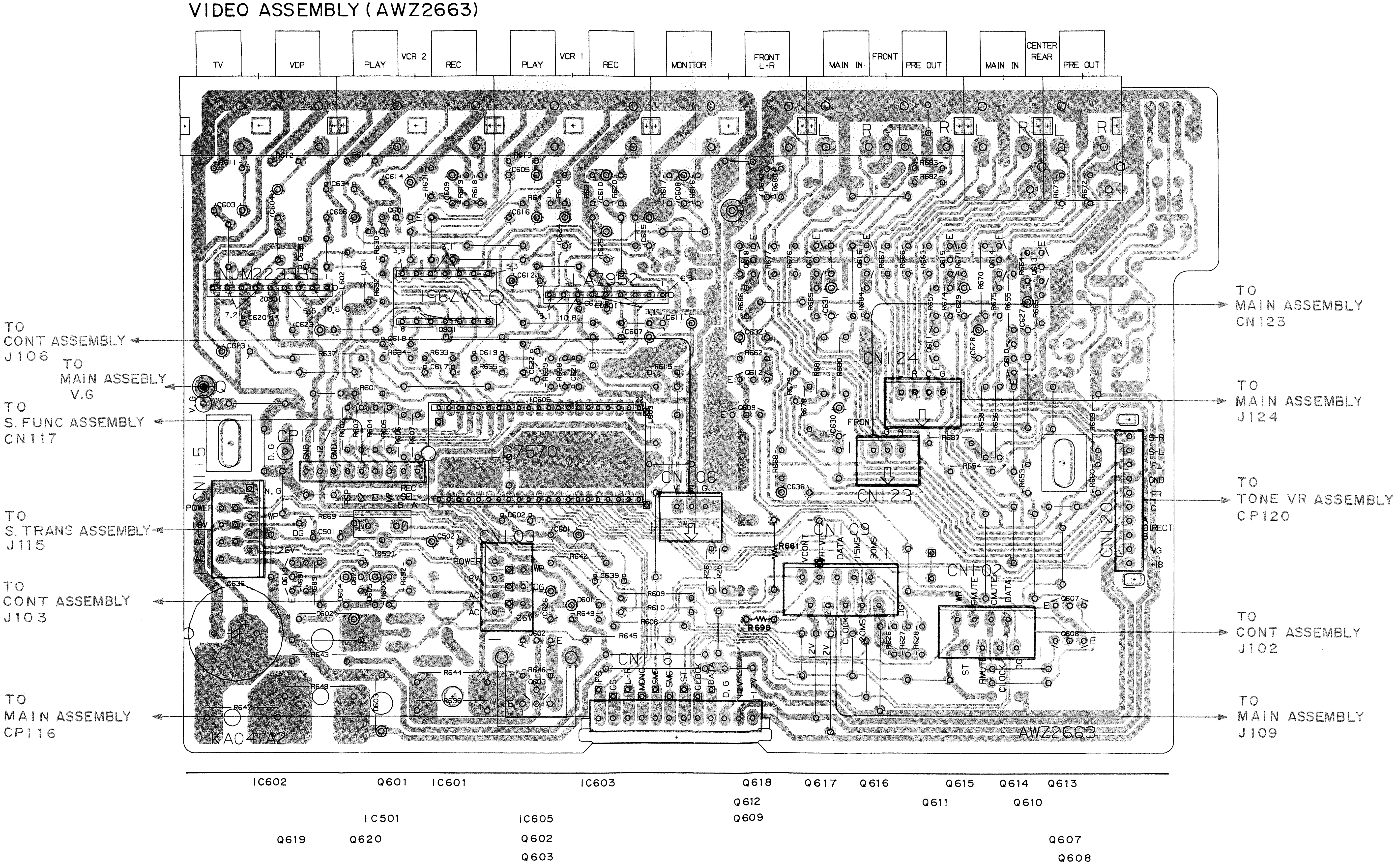
● View from soldering side

VIDEO ASSEMBLY (AWZ2663)

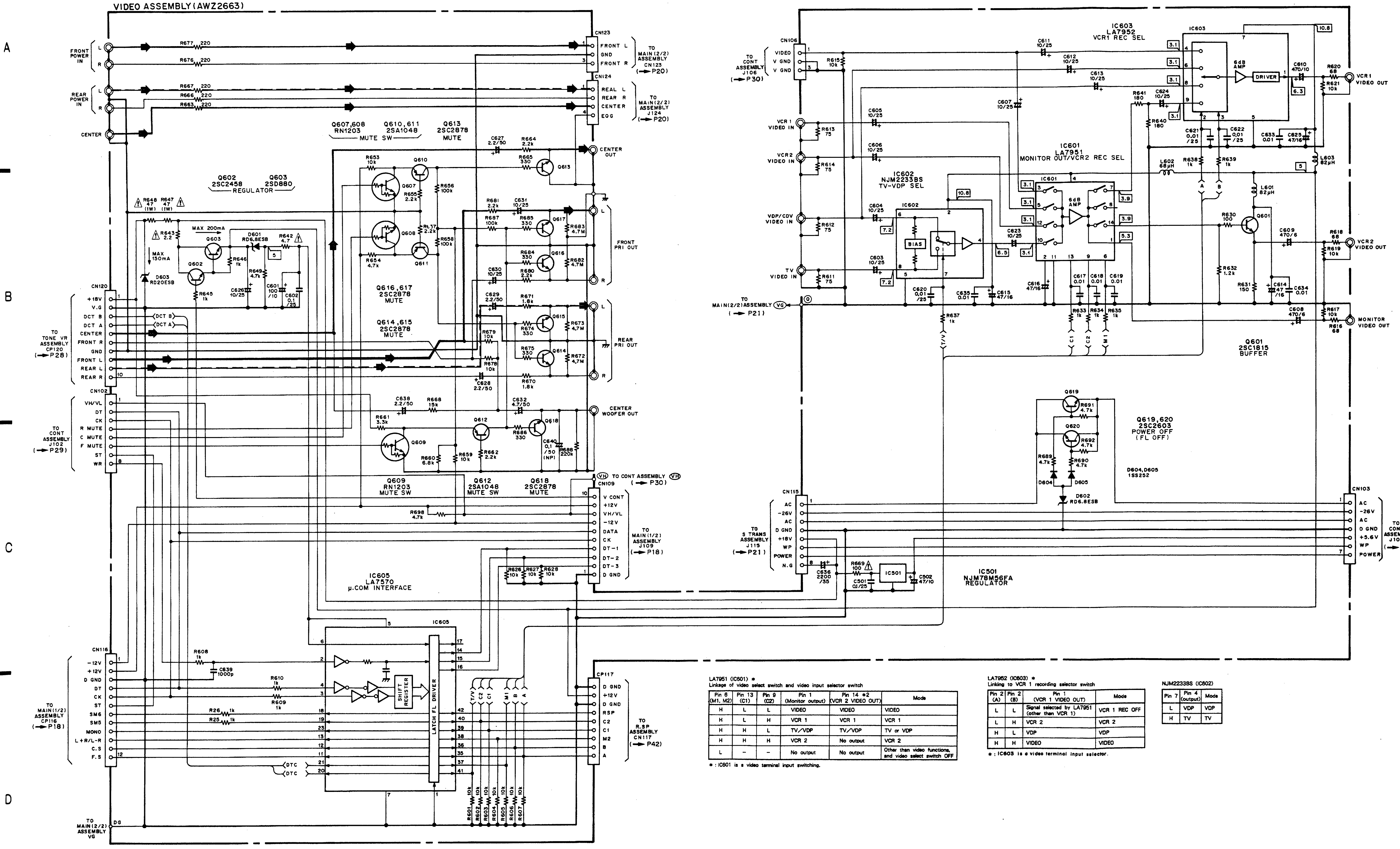

TV
VDP
VCR 2 PLAY
REC
VCR 1 PLAY
REC
MONITOR
FRONT L+R
MAIN IN
FRONT PRE OUT
MAIN IN
CENTER REAR PRE OUT
TO MAIN ASSEMBLY CN123
TO MAIN ASSEMBLY J124
TO TONE VR ASSEMBLY CP120
TO CONT ASSEMBLY J102
TO MAIN ASSEMBLY J109
TO CONT ASSEMBLY J106
TO MAIN ASSEMBLY V.G
TO S.FUNC ASSEMBLY CN117
TO S.TRANS ASSEMBLY J115
TO CONT ASSEMBLY J103
TO MAIN ASSEMBLY CP116
CN124
CN123
CN120
CN102
CN109
CN110
CN106
CN103
CN115
LC7570
LA7952
LA7956
NJM2233BS
AWZ2663
KA0414Z
Q613 Q614 Q615 Q616 Q617 Q618 IC603 IC601 Q601 IC602
Q610 Q611 Q612
Q609 IC605 IC501
Q607 Q602 Q620 Q619
Q608 Q603

3.13 P.C.BOARD PATTERN OF VIDEO ASSEMBLY

- View from component side


VIDEO ASSEMBLY (AWZ2663)
TV
VDP
PLAY
VCR 2
REC
PLAY
VCR 1
REC
MONITOR
FRONT L+R
MAIN IN
FRONT
PRE OUT
MAIN IN
CENTER REAR
PRE OUT
TO CONT ASSEMBLY J106
TO MAIN ASSEBLY V.G
TO S.FUNC ASSEMBLY CN117
TO S.TRANS ASSEMBLY J115
TO CONT ASSEMBLY J103
TO MAIN ASSEMBLY CP116
TO MAIN ASSEMBLY CN123
TO MAIN ASSEMBLY J124
TO TONE VR ASSEMBLY CP120
TO CONT ASSEMBLY J102
TO MAIN ASSEMBLY J109
NJM2233BS
LA7952
LA7955
LC7570
CP117
CN115
CN103
CN106
CN109
CN102
CN110
CN120
CN123
CN124
KA041A2
AWZ2663
IC602
Q601
IC601
IC603
Q618
Q617
Q616
Q615
Q614
Q613
Q612
Q611
Q610
Q609
IC501
IC605
Q619
Q620
Q602
Q603
Q607
Q608

3.14 SCHEMATIC DIAGRAM OF VIDEO ASSEMBLY


VIDEO ASSEMBLY (AWZ2663)
FRONT POWER IN
REAR POWER IN
CENTER
CN123
FRONT L
GND
FRONT R
TO MAIN(2/2) ASSEMBLY CN123 (→P20)
CN124
REAR L
REAR R
CENTER
EOG
TO MAIN(2/2) ASSEMBLY J124 (→P20)
Q602 2SC2458
Q603 2SD880
REGULATOR
Q607,608 RN1203
Q610,611 2SA1048
MUTE SW
Q613 2SC2878 MUTE
CENTER OUT
FRONT PRI OUT
REAR PRI OUT
CENTER WOOFER OUT
Q616,617 2SC2878 MUTE
Q614,615 2SC2878 MUTE
Q609 RN1203 MUTE SW
Q612 2SA1048 MUTE SW
Q618 2SC2878 MUTE
CN120
TO TONE VR ASSEMBLY CP120 (→P28)
CN102
TO CONT ASSEMBLY J102 (→P29)
CN109
TO MAIN(1/2) ASSEMBLY J109 (→P18)
TO CONT ASSEMBLY (VH) (→P30)
IC605 LA7570 µ.COM INTERFACE
SHIFT REGISTER
LATCH FL DRIVER
CN116
TO MAIN(1/2) ASSEMBLY CP116 (→P18)
CP117
TO R.SP ASSEMBLY CN117 (→P42)
TO MAIN(2/2) ASSEMBLY VG
CN106
TO CONT ASSEMBLY J106 (→P30)
VCR 1 VIDEO IN
VCR 2 VIDEO IN
VDP/CDV VIDEO IN
TV VIDEO IN
TO MAIN(2/2) ASSEMBLY (VG) (→P21)
IC603 LA7952 VCR1 REC SEL
IC601 LA7951 MONITOR OUT/VCR2 REC SEL
IC602 NJM2233BS TV-VDP SEL
6dB AMP
DRIVER
BIAS
VCR 1 VIDEO OUT
VCR 2 VIDEO OUT
MONITOR VIDEO OUT
Q601 2SC1815 BUFFER
Q619,620 2SC2603 POWER OFF (FL OFF)
D604,D605 1SS252
D602 RD6.8ESB
CN115
TO S TRANS ASSEMBLY J115 (→P21)
IC501 NJM78M56FA REGULATOR
CN103
TO CONT ASSEMBLY J103 (→P29)

LA7951 (IC601) ✱
Linkage of video select switch and video input selector switch

Pin 6 (M1, M2)	Pin 13 (C1)	Pin 9 (C2)	Pin 1 (Monitor output)	Pin 14 ✱2 (VCR 2 VIDEO OUT)	Mode
H	L	L	VIDEO	VIDEO	VIDEO
H	L	H	VCR 1	VCR 1	VCR 1
H	H	L	TV/VDP	TV/VDP	TV or VDP
H	H	H	VCR 2	No output	VCR 2
L	–	–	No output	No output	Other than video functions, and video select switch OFF

✱ : IC601 is a video terminal input switching.

LA7952 (IC603) ✱
Linking to VCR 1 recording selector switch

Pin 2 (A)	Pin 2 (B)	Pin 1 (VCR 1 VIDEO OUT)	Mode
L	L	Signal selected by LA7951 (other than VCR 1)	VCR 1 REC OFF
L	H	VCR 2	VCR 2
H	L	VDP	VDP
H	H	VIDEO	VIDEO

✱ : IC603 is a video terminal input selector.

NJM2233BS (IC602)

Pin 7	Pin 4 (output)	Mode
L	VDP	VDP
H	TV	TV

4. P.C.B's PARTS LIST

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The ⚠ mark found on some component parts indicates the impotance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%)
$560\,\Omega \rightarrow 56 \times 10^1 \rightarrow 561$ ································ RD1/4PS$\boxed{5}\boxed{6}\boxed{1}$J
$47\text{k}\,\Omega \rightarrow 47 \times 10^3 \rightarrow 473$ ································ RD1/4PS$\boxed{4}\boxed{7}\boxed{3}$J
$0.5\,\Omega \rightarrow$ 0R5 ·· RN2H$\boxed{0}\boxed{R}\boxed{5}$K
$1\,\Omega \rightarrow$ 010 ·· RS1P$\boxed{0}\boxed{1}\boxed{0}$K
Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
$5.62\text{k}\,\Omega \rightarrow 562 \times 10^1 \rightarrow 5621$ ································ RN1/4SR$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

MAIN ASSEMBLY(AWZ2653)

SEMICONDUCTORS

Mark	No. Symbol & Description	Part No.
	IC101 E-SW IC	TC9164N
	IC102 E-SW IC	TC9163N
	IC103 E-SW IC	TC9162N
	IC104	M5218P
	IC105	M5238LF
	IC106	M5218PF
	IC108, 109	M5218PF
	IC110	TC4052BP
	IC112	M50198P
	IC114, 115	UPC1188H
	IC116	M5201P
	IC3	NJM78M56FA
	Q10 TRANSISTOR	2SC2458
	Q101, 102 TRANSISTOR	2SA979
	Q103, 104 TRANSISTOR	2SA992
	Q105, 106 TRANSISTOR	2SC2603
	Q107, 108 TRANSISTOR	2SC2705
	Q109, 110 TRANSISTOR	2SA1145
	Q113, 114 TRANSISTOR	2SC3298
	Q115, 116 TRANSISTOR	2SA1306
	Q121, 122 TRANSISTOR	2SC2240
	Q123 TRANSISTOR	2SA979
	Q124 TRANSISTOR	2SA992
	Q125 TRANSISTOR	2SC2603
	Q126 TRANSISTOR	2SC2705
	Q127 TRANSISTOR	2SA1145
	Q128 TRANSISTOR	2SC3298
	Q129 TRANSISTOR	2SA1306
	Q132 TRANSISTOR	2SC2240
	Q133 TRANSISTOR	RN2203
	Q134 TRANSISTOR	2SC2458
	Q135 TRANSISTOR	RN1203
	Q3 TRANSISTOR	RN1203
	Q4 TRANSISTOR	2SA1515
	Q5-9 TRANSISTOR	2SC2458
	D101-104 DIODE	1SS252
	D106-124 DIODE	1SS252
	D14, 15 DIODE	1SS252
	D17, 18 DIODE	1SS252
	D19 ZENER DIODE	HZS5BLL
	D20 ZENER DIODE	RD5. 6ESB
	D21 ZENER DIODE	RD6. 8ESB
	D22-24 DIODE	1SS252
	D9 DIODE	RBV402

RELAYS

Mark	No. Symbol & Description	Part No.
	RY3 RELAY	ASR1005
	RY4, 5 RELAY	ASR-109

COILS/TRANSFORMERS

Mark	No. Symbol & Description	Part No.
	L101, 102 COIL	ATH1011
	L105 COIL	ATH1011

CAPACITORS

Mark	No. Symbol & Description	Part No.
	C12 CKA (0. 01/AC250V)	ACG1005
	C121, 122 ELECTR. CAPACITOR	CEAS100M25
	C123, 124 CERAMIC CAPACITOR	CKMYB391K50
	C125, 126 CERAMIC CAPACITOR	CCMSL101J50
	C127, 128 ELECTR. CAPACITOR	CEAS470M16
	C129, 130 ELECTR. CAPACITOR	CEAS2R2M50
	C131, 132 MYLOR FILM CAPACITOR	CQMA822J50
	C133, 134 MYLOR FILM CAPACITOR	CQMA222J50
	C135, 136 ELECTR. CAPACITOR	CEAS470M16
	C147, 148 ELECTR. CAPACITOR	CEAS470M16
	C157, 158 ELECTR. CAPACITOR	CEEA220M16
	C17 ELECTR. CAPACITOR	CEHAQ470M10
	C175 ELECTR. CAPACITOR	CEAS100M25
	C176 ELECTR. CAPACITOR	CEAS010M50
	C177 CERAMIC CAPACITOR	CCMSL101J50
	C178 MYLOR FILM CAPACITOR	CQMA561J50
	C179 ELECTR. CAPACITOR	CEAS100M25
	C18 ELECTR. CAPACITOR	CEAS471M6
	C180 MYLOR FILM CAPACITOR	CQMA682J50
	C181 ELECTR. CAPACITOR	CEAS100M25
	C182 MYLOR FILM CAPACITOR	CQMA561J50
	C183 MYLOR FILM CAPACITOR	CQMA562K50
	C184 ELECTR. CAPACITOR	CEANP100M16
	C185 AUDIO FILM CAPACITOR	CFTXA104J50
	C186 MYLOR FILM CAPACITOR	CQMA562K50
	C187 MYLOR FILM CAPACITOR	CQMA561J50
	C188 ELECTR. CAPACITOR	CEAS101M16
	C189 AUDIO FILM CAPACITOR	CFTXA104J50
	C19 ELECTR. CAPACITOR	CEHAQ4R7M50
	C190 ELECTR. CAPACITOR	CEAS470M25
	C191, 192 AUDIO FILM CAPACITOR	CFTXA474J50
	C194 CERAMIC CAPACITOR	CKCYF103Z50
	C195 CERAMIC CAPACITOR	CKCYX473M25
	C197, 198 ELECTR. CAPACITOR	CEEA4R7M25
	C199 CERAMIC CAPACITOR	CKMYB391K50
	C20 ELECTR. CAPACITOR	CEAS100M25
	C200 CERAMIC CAPACITOR	CKMYB391K50
	C201, 202 CERAMIC CAPACITOR	CCMSL101J50
	C203, 204 MYLOR FILM CAPACITOR	CQMA222J50
	C205, 206 CERAMIC CAPACITOR	CCMSL470J50
	C207-209 CERAMIC CAPACITOR	CCCSL220K500
	C21 ELECTR. CAPACITOR	CEYA4R7M50
	C210 CERAMIC CAPACITOR	CCCSL220K500
	C211, 212 ELECTR. CAPACITOR	CEAS101M10
	C213 ELECTR. CAPACITOR	CEHAQ221M10
	C214 ELECTR. CAPACITOR	CEAS221M10
	C215, 216 CERAMIC CAPACITOR	CCCSL050C500
	C219 MYLOR FILM CAPACITOR	CQMA122J50
	C22 CERAMIC CAPACITOR	CKCYX104M25
	C220 MYLOR FILM CAPACITOR	CQMA122J50
	C221-224 ELECTR. CAPACITOR	CEYA330M16
	C225, 226 CERAMIC CAPACITOR	CCCSL101K500
	C227 CERAMIC CAPACITOR	CCDSL101K500
	C228 CERAMIC CAPACITOR	CCCSL101K500
	C229 ELECTR. CAPACITOR	CEANP010M50
	C23 ELECTR. CAPACITOR	CEYA4R7M50
	C230 ELECTR. CAPACITOR	CEANP010M50
	C231, 232 CERAMIC CAPACITOR	CKMYB471K50
	C233 ELECTR. CAPACITOR	CEAS2R2M50
	C234 ELECTR. CAPACITOR	CEHAQ2R2M50
	C235, 236 CERAMIC CAPACITOR	CCMSL101J50
	C237, 238 ELECTR. CAPACITOR	CEHAQ100M25
	C239 CERAMIC CAPACITOR	CCMSL470J50
	C24 CERAMIC CAPACITOR	CKCYX104M25
	C240 CERAMIC CAPACITOR	CCMSL470J50
	C241, 242 CERAMIC CAPACITOR	CCMSL220J50
	C243 ELECTR. CAPACITOR	CEAS330M25
	C244 ELECTR. CAPACITOR	CEHAQ330M25
	C249 ELECTR. CAPACITOR	CEEA4R7M25
	C25 ELECTR. CAPACITOR	CEYA4R7M50
	C250 CERAMIC CAPACITOR	CKMYB391K50
	C251 CERAMIC CAPACITOR	CCMSL101J50
	C252 MYLOR FILM CAPACITOR	CQMA222J50
	C253 CERAMIC CAPACITOR	CCMSL470J50
	C254 ELECTR. CAPACITOR	CEAS101M10
	C255, 256 CERAMIC CAPACITOR	CCCSL220K500
	C257 CERAMIC CAPACITOR	CCCSL050C500
	C259 ELECTR. CAPACITOR	CEAS221M10
	C26 CERAMIC CAPACITOR	CKCYX104M25
	C260 MYLOR FILM CAPACITOR	CQMA122J50
	C261 ELECTR. CAPACITOR	CEAS330M16
	C262 ELECTR. CAPACITOR	CEYA100M50
	C263, 264 CERAMIC CAPACITOR	CCCSL101K500
	C265 ELECTR. CAPACITOR	CEANP010M50
	C268 CERAMIC CAPACITOR	CKCYX473M25
	C269 CERAMIC CAPACITOR	CKCYX103M25
	C270, 271 CERAMIC CAPACITOR	CKDYX104M25
	C272, 273 AUDIO FILM CAPACITOR	CFTXA823J50
	C277-279 AUDIO FILM CAPACITOR	CFTXA823J50
	C28 ELECTR. CAPACITOR	CEHAQ100M25
	C280 AUDIO FILM CAPACITOR	CFTXA823J50
	C281 ELECTR. CAPACITOR	CEAS100M25
	C283-285 ELECTR. CAPACITOR	CEEA221M16
	C286 ELECTR. CAPACITOR	CEYA4R7M50
	C29 ELECTR. CAPACITOR	CEAS470M10
	C33, 34 CEA (4700/35V)	ACH-267
	C37 CERAMIC CAPACITOR	CKMYB102K50
	C38 CERAMIC CAPACITOR	ACG1020
	C39 CERAMIC CAPACITOR	CKMYB102K50
	C40, 41 ELECTR. CAPACITOR	CEHAQ100M25

RESISTORS

Mark	No. Symbol & Description	Part No.
⚠	R10 FUSLIBLE RESISTOR	RFA1/4PS4R7J
	R101-109 CARBONFILM RESISTOR	RD1/4PM□□□J
	R11 CARBONFILM RESISTOR	RD1/8PM□□□J
	R110-112 CARBONFILM RESISTOR	RD1/4PM□□□J
	R113, 114 CARBONFILM RESISTOR	RDR1/4PM□□□J
	R117-124 CARBONFILM RESISTOR	RD1/8PM□□□J
	R125, 126 CARBONFILM RESISTOR	RD1/4PM□□□J
	R127-139 CARBONFILM RESISTOR	RD1/8PM□□□J
	R14 CARBONFILM RESISTOR	RD1/8PM□□□J
	R140-142 CARBONFILM RESISTOR	RD1/8PM□□□J
	R145, 146 CARBONFILM RESISTOR	RD1/8PM□□□J
	R147, 148 CARBONFILM RESISTOR	RD1/4PM□□□J
	R149 CARBONFILM RESISTOR	RD1/8PM□□□J
	R15 CARBONFILM RESISTOR	RD1/8PM□□□J
	R150-159 CARBONFILM RESISTOR	RD1/8PM□□□J
	R16 CARBONFILM RESISTOR	RD1/8PM□□□J
	R160-166 CARBONFILM RESISTOR	RD1/8PM□□□J
	R169 CARBONFILM RESISTOR	RD1/8PM□□□J
⚠	R17 FUSLIBLE RESISTOR	RFA1/4PS□□□J
	R170 CARBONFILM RESISTOR	RD1/8PM□□□J
	R18 CARBONFILM RESISTOR	RD1/8PM□□□J
	R183-186 CARBONFILM RESISTOR	RD1/8PM□□□J
	R188, 189 CARBONFILM RESISTOR	RD1/8PM□□□J
	R19 CARBONFILM RESISTOR	RD1/8PM□□□J
	R190-199 CARBONFILM RESISTOR	RD1/8PM□□□J
	R20 CARBONFILM RESISTOR	RD1/8PM□□□J
	R200-208 CARBONFILM RESISTOR	RD1/8PM□□□J
	R21 CARBONFILM RESISTOR	RD1/8PM□□□J
	R211-217 CARBONFILM RESISTOR	RD1/8PM□□□J

Mark	No.	Symbol & Description	Part No.
	R22	CARBONFILM RESISTOR	RD1/8PM□□□J
	R221, 222	CARBONFILM RESISTOR	RD1/4PM□□□J
	R223-226	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R227, 228	CARBONFILM RESISTOR	RD1/4PM□□□J
⚠	R229	CARBONFILM RESISTOR	RD1/4PMF□□□J
⚠	R23	CARBONFILM RESISTOR	RD1/4PMF□□□J
⚠	R230	CARBONFILM RESISTOR	RD1/4PMF□□□J
	R231-236	CARBONFILM RESISTOR	RD1/4PM□□□J
	R237-239	CARBONFILM RESISTOR	RDR1/4PM□□□J
⚠	R24	CARBONFILM RESISTOR	RD1/4PMF□□□J
	R240	CARBONFILM RESISTOR	RDR1/4PM□□□J
⚠	R243, 244	FUSLIBLE RESISTOR	RFA1/4PS□□□J
	R245, 246	CARBONFILM RESISTOR	RD1/4PM□□□J
	R247-250	CARBONFILM RESISTOR	RD1/8PM□□□J
⚠	R251, 252	CARBONFILM RESISTOR	RD1/4PMF□□□J
⚠	R253-256	FUSLIBLE RESISTOR	RFA1/4PS□□□J
⚠	R257-260	CARBONFILM RESISTOR	RD1/4PMF□□□J
⚠	R261-264	FUSLIBLE RESISTOR	RFA1/4PS□□□J
⚠	R265, 266	RESISTOR (0.33, 5W)	ACN-139
⚠	R267-269	CARBONFILM RESISTOR	RD1/4PMF□□□J
	R27	CARBONFILM RESISTOR	RD1/8PM□□□J
⚠	R270	CARBONFILM RESISTOR	RD1/4PMF□□□J
	R271-279	CARBONFILM RESISTOR	RD1/8PM□□□J
	R28	CARBONFILM RESISTOR	RD1/8PM□□□J
	R280-286	CARBONFILM RESISTOR	RD1/8PM□□□J
	R287	CARBONFILM RESISTOR	RD1/4PM□□□J
	R289	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R29	CARBONFILM RESISTOR	RD1/8PM□□□J
	R290	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R291, 292	CARBONFILM RESISTOR	RD1/4PM□□□J
⚠	R293	CARBONFILM RESISTOR	RD1/4PMF□□□J
	R294, 295	CARBONFILM RESISTOR	RD1/4PM□□□J
	R296, 297	CARBONFILM RESISTOR	RDR1/4PM□□□J
⚠	R299	FUSLIBLE RESISTOR	RFA1/4PS□□□J
	R30	CARBONFILM RESISTOR	RD1/8PM□□□J
	R300-302	CARBONFILM RESISTOR	RD1/8PM□□□J
⚠	R303	CARBONFILM RESISTOR	RD1/4PMF□□□J
⚠	R304, 305	FUSLIBLE RESISTOR	RFA1/4PS□□□J
⚠	R306, 307	CARBONFILM RESISTOR	RD1/4PMF□□□J
⚠	R309	FUSLIBLE RESISTOR	RFA1/4PS□□□J
	R31	CARBONFILM RESISTOR	RD1/8PM□□□J
⚠	R310	FUSLIBLE RESISTOR	RFA1/4PS□□□J
⚠	R311	RESISTOR (0.33, 5W)	ACN-139
⚠	R312, 313	CARBONFILM RESISTOR	RD1/4PMF□□□J
	R32, 33	CARBONFILM RESISTOR	RD1/8PM□□□J
	R331	CARBONFILM RESISTOR	RD1/8PM□□□J
	R332	CARBONFILM RESISTOR	RD1/4PM□□□J
	R333	CARBONFILM RESISTOR	RD1/8PM□□□J
	R335-339	CARBONFILM RESISTOR	RD1/8PM□□□J
	R34	CARBONFILM RESISTOR	RD1/4PM□□□J
	R340, 341	CARBONFILM RESISTOR	RD1/8PM□□□J
⚠	R342, 343	CARBONFILM RESISTOR	RD1/4PMFL□□□J
⚠	R344, 345	METAL OXIDE RESISTOR	RS2LMF□□□J
	R35	CARBONFILM RESISTOR	RD1/4PM□□□J

Mark	No.	Symbol & Description	Part No.
⚠	R354	CARBONFILM RESISTOR	RD1/4PMF□□□J
⚠	R355, 356	CARBONFILM RESISTOR	RD1/4PMFL□□□J
⚠	R357	CARBONFILM RESISTOR	RD1/4PMF□□□J
	R358, 359	CARBONFILM RESISTOR	RD1/8PM□□□J
	R36	CARBONFILM RESISTOR	RD1/4PM□□□J
	R360-362	CARBONFILM RESISTOR	RD1/8PM□□□J
	R364-368	CARBONFILM RESISTOR	RD1/8PM□□□J
⚠	R371-378	FUSLIBLE RESISTOR	RFA1/4PS□□□J
	R379-384	CARBONFILM RESISTOR	RD1/8PM□□□J
⚠	R6	FUSLIBLE RESISTOR	RFA1/4PS□□□J

OTHERS

Mark	No.	Symbol & Description	Part No.
		PIN JACK 4-P	AKB1101
		PHONO JACK 6-P	AKB1121
		SPEAKER TERMINAL 8-P	AKE1011
	CN101		KPE11
	CN105	JUMPER CONNECTOR 3-P	KPC3
	CN108		KPC5
	CN112-114	JUMPER CONNECTOR 3-P	KPC3
	CN123	JUMPER CONNECTOR 3-P	KPC3
	CN126	JUMPER CONNECTOR 3-P	KPC3
	X101	CERAMIC OSCILLATOR	ASS1016

TONE VR ASSEMBLY(AWZ2654)

SEMICONDUCTORS

Mark	No.	Symbol & Description	Part No.
	IC401		M5218LF
	IC402		NJM072D-E
	IC403		TC9184P
	IC404	E-VR IC	TC9154AP
	IC405		LC4966
	IC406	E-VR IC	TC9154AP
	IC407		M5218LF
	IC408	E-VR IC	TC9154AP
	IC409		M5218LF
	IC410		TA7291S
	Q401, 402	TRANSISTOR	RN1203
	Q403, 404	TRANSISTOR	RN2203
	D401, 402	ZENER DIODE	RD6.2ESB
	D405-407	DIODE	1SS252

COILS/TRANSFORMERS

Mark	No.	Symbol & Description	Part No.
	L401, 402	INDUCTOR	LTA822J
	L403, 404	AXIAL INDUCTOR	LAU5R6K

CAPACITORS

Mark	No.	Symbol & Description	Part No.
	C401, 402	ELECTR. CAPACITOR	CEYA2R2M50
	C403, 404	ELECTR. CAPACITOR	CEAS010M50
	C405, 406	CERAMIC CAPACITOR	ACG1018
	C407, 408	ELECTR. CAPACITOR	CEAS470M16
	C409, 410	ELECTR. CAPACITOR	CEYA100M25
	C411, 412	MYLOR FILM CAPACITOR	CQMA302J50
	C413, 414		CFTXA153J50
	C415, 416	AUDIO FILM CAPACITOR	CFTXA823J50
	C417, 418		CFTXA153J50
	C419, 420	ELECTR. CAPACITOR	CEEA470M16
	C421	ELECTR. CAPACITOR	CEYA4R7M50
	C422	ELECTR. CAPACITOR	CEYA470M16

Mark	No. Symbol & Description	Part No.
	C423 ELECTR. CAPACITOR	CEAS4R7M50
	C424 ELECTR. CAPACITOR	CEAS2R2M50
	C425 ELECTR. CAPACITOR	CEYA470M16
	C427, 428 ELECTR. CAPACITOR	CEAS2R2M50
	C429, 430 CERAMIC CAPACITOR	ACG1018
	C431, 432 AUDIO FILM CAPACITOR	CFTXA183J50
	C433-440 CERAMIC CAPACITOR	ACG1022
	C441 ELECTR. CAPACITOR	CEAS101M25
	C442-444 CERAMIC CAPACITOR	CKMYB102K50
	C449, 450 ELECTR. CAPACITOR	CEAS2R2M50

RESISTORS

Mark	No. Symbol & Description	Part No.
	R401-466 CARBONFILM RESISTOR	RD1/8PM□□□J
	VR401 VR	ACX1041

OTHERS

Mark	No. Symbol & Description	Part No.
	SOCKET 10-P	AKP1055

PS ASSEMBLY(AWZ2655)

SEMICONDUCTORS

Mark	No. Symbol & Description	Part No.
	D10 DIODE	1SS252
	D6, 7 DIODE	D5SB20F
	D8 DIODE	1SS252

RELAYS

Mark	No. Symbol & Description	Part No.
	RY2 RELAY	ASR1024
	RY7 RELAY	ASR1024

CAPACITORS

Mark	No. Symbol & Description	Part No.
	C10, 11 ELECTR. CAPACITOR	ACH1108
	C4 CERAMIC CAPACITOR	CKCYX473M25
	C5-7 CKA (0.01/AC250V)	ACG1005
	C8, 9	CQMXA103J100

RESISTORS

Mark	No. Symbol & Description	Part No.
	R2 CARBONFILM RESISTOR	RD1/4PM□□□J

H.P ASSEMBLY

OTHERS

Mark	No. Symbol & Description	Part No.
	JACK	AKN1002

TR1 ASSEMBLY

SEMICONDUCTORS

Mark	No. Symbol & Description	Part No.
	Q111, 112 TRANSISTOR	2SC2603

TR2 ASSEMBLY

SEMICONDUCTORS

Mark	No. Symbol & Description	Part No.
	Q136 TRANSISTOR	2SC2603

REG. ASSEMBLY

SEMICONDUCTORS

Mark	No. Symbol & Description	Part No.
	IC1	M5F78M12L
	IC2	M5F79M12L

CAPACITORS

Mark	No. Symbol & Description	Part No.
	C14, 15 ELECTR. CAPACITOR	CEAS470M16
	C35, 36 AUDIO FILM CAPACITOR	CFTXA104J50

RESISTORS

Mark	No. Symbol & Description	Part No.
⚠	R5 METAL OXIDE RESISTOR	RS2LMF□□□J
⚠	R9 METAL OXIDE RESISTOR	RS2LMF□□□J

S.TRANS ASSEMBLY

SEMICONDUCTORS

Mark	No. Symbol & Description	Part No.
	Q1 TRANSISTOR	2SC2458
	D1 DIODE	1SS252
	D2-5 DIODE	S5566

RELAYS

Mark	No. Symbol & Description	Part No.
⚠	RY1 RELAY	ASR1024

COILS/TRANSFORMERS

Mark	No. Symbol & Description	Part No.
⚠	T2 POWER TRANSFORMER	ATT1117

CAPACITORS

Mark	No. Symbol & Description	Part No.
	C2 CERAMIC CAPACITOR	CKCYF103Z50
⚠	C3 CKA (0.01/AC400V)	ACG1002

RESISTORS

Mark	No. Symbol & Description	Part No.
	R1 CARBONFILM RESISTOR	RD1/8PM□□□J
	R3 CARBONFILM RESISTOR	RD1/4PM□□□J
	R7, 8 CARBONFILM RESISTOR	RD1/8PM□□□J

DOL ASSEMBLY(AWZ2658)

SEMICONDUCTORS

Mark	No. Symbol & Description	Part No.
	IC107	LA2730

CAPACITORS

Mark	No. Symbol & Description	Part No.
	C161 ELECTR. CAPACITOR	CEAS2R2M50
	C162 ELECTR. CAPACITOR	CEASR33M50
	C163 AUDIO FILM CAPACITOR	CFTXA104J50
	C164 AUDIO FILM CAPACITOR	CFTXA333J50
	C165 ELECTR. CAPACITOR	CEAS010M50
	C166 ELECTR. CAPACITOR	CEAS220M16
	C167 ELECTR. CAPACITOR	CEAS101M10
	C168 MYLOR FILM CAPACITOR	CQMA472K50
	C169 ELECTR. CAPACITOR	CEAS010M50
	C170 AUDIO FILM CAPACITOR	CFTXA333J50
	C171 ELECTR. CAPACITOR	CEAS100M25
	C172 ELECTR. CAPACITOR	CEAS220M16
	C173 CERAMIC CAPACITOR	CKMYB471K50

RESISTORS

Mark	No. Symbol & Description	Part No.
	R171-182 CARBONFILM RESISTOR	RD1/8PM□□□J

OTHERS

Mark	No. Symbol & Description	Part No.
	SOCKET 5-P	AKP1001

CONT ASSEMBLY(AWZ2660)

SEMICONDUCTORS

Mark	No. Symbol & Description	Part No.
	IC502 AMP CONTROL UCOM	PDG046-A
	IC503 OUTPUT EXPANDER IC	PD0012A
	Q501 TRANSISTOR	2SC2458
	Q502 TRANSISTOR	RN1203
	Q503 TRANSISTOR	RN2203
	Q504, 505 TRANSISTOR	RN1203
	D501-506 DIODE	1SS252

Mark	No.	Symbol & Description	Part No.
		D507-511 LED	AEL1092
		D512-517 LED	AEL1072
		D518-525 ZENER DIODE	RD5.6ESB
		D526-528 DIODE	1SS252

SWITCHES

Mark	No.	Symbol & Description	Part No.
		S501-505 SWITCH	ASG1029
		S507-510 SWITCH	ASG1029
		S513-517 SWITCH	ASG1029
		S518 SWITCH	ASG-703
		S519-535 SWITCH	ASG1029
		S537-541 SWITCH	ASG1029
		S543-547 SWITCH	ASG1029

CAPACITORS

Mark	No.	Symbol & Description	Part No.
		C503 CERAMIC CAPACITOR	CKDYX103M25
		C504 ELECTR.CAPACITOR	CEJA470M10
		C506 ELECTR.CAPACITOR	CEAS330M50
		C507 ELECTR.CAPACITOR	CEJA4R7M50
		C508 CERAMIC CAPACITOR	ACG1022
		C509 ELECTR.CAPACITOR	CEJA470M16
		C510 CEA (47000/5.5V)	ACH1037
		C511 CERAMIC CAPACITOR	CKMYB102K50
		C512 CERAMIC CAPACITOR	CKDYX103M25
		C513 ELECTR.CAPACITOR	CEJA101M10
		C514 CERAMIC CAPACITOR	CKDYX103M25
		C515 CERAMIC CAPACITOR	ACG1021
		C516 CERAMIC CAPACITOR	ACG1020
		C517,518 CERAMIC CAPACITOR	CKDYX103M25

RESISTORS

Mark	No.	Symbol & Description	Part No.
		R358,359 CARBONFILM RESISTOR	RD1/8PM□□□J
		R501-506 CARBONFILM RESISTOR	RD1/8PM□□□J
		R508-514 CARBONFILM RESISTOR	RD1/8PM□□□J
		R518-533 CARBONFILM RESISTOR	RD1/8PM□□□J
		R534,535 RESISTOR ARRAY (82K)	RA8S□□□J
		R536-538 CARBONFILM RESISTOR	RD1/8PM□□□J
		R695 CARBONFILM RESISTOR	RD1/8PM□□□J

OTHERS

Mark	No.	Symbol & Description	Part No.
		PHONO JACK 1-P	AKB1082
		REMOTE RECEIVER UNIT	AXX1010
		V501 FL TUBE	AAV1089
		X501 CERAMIC OSCILLATOR	ASS1022

PROLOGIC ASSEMBLY(AWZ2661)

SEMICONDUCTORS

Mark	No.	Symbol & Description	Part No.
		IC801	TC4053BP
		IC802 OTHER IC	LA2770
		IC803	M5238LF
		IC804	TC4011UBP
		IC805	M5218LF
		IC806	TC4052BP
		IC807	CXD1067P
		IC808,809	NJM082D
		IC811	M5218LF
		IC812	M51132L
		Q801 N-FET	2SK369
		Q802 TRANSISTOR	2SC2878
		Q803 TRANSISTOR	RN2203
		Q804 TRANSISTOR	RN1203
		Q805 N-FET	2SK369
		D801 ZENER DIODE	RD3.9ESB
		D802 ZENER DIODE	RD5.6ESB
		D803,804 ZENER DIODE	RD6.8ESB
		D805-808 DIODE	1SS252
		D810 DIODE	1SS252

CAPACITORS

Mark	No.	Symbol & Description	Part No.
		C801,802 ELECTR.CAPACITOR	CEYA100M25
		C803,804 AUDIO FILM CAPACITOR	CFTXA104J50
		C805 MYLOR FILM CAPACITOR	CQMA681J50
		C806,807	CFTXA334J50
		C808,809 ELECTR.CAPACITOR	CEYA4R7M50
		C810 ELECTR.CAPACITOR	CEAS331M16
		C811 MYLOR FILM CAPACITOR	CQMA682J50
		C812 AUDIO FILM CAPACITOR	CFTXA224J50
		C813 ELECTR.CAPACITOR	CEYA4R7M50
		C814 AUDIO FILM CAPACITOR	CFTXA224J50
		C815 ELECTR.CAPACITOR	CEAS221M10
		C816-819 ELECTR.CAPACITOR	CEAS4R7M50
		C820 AUDIO FILM CAPACITOR	CFTXA224J50
		C821 ELECTR.CAPACITOR	CEYA4R7M50
		C822 AUDIO FILM CAPACITOR	CFTXA224J50
		C823 ELECTR.CAPACITOR	CEAS470M10
		C824 MYLOR FILM CAPACITOR	CQMA682J50
		C825,826 ELECTR.CAPACITOR	CEYA4R7M50
		C827,828 AUDIO FILM CAPACITOR	CFTXA154J50
		C829 MYLOR FILM CAPACITOR	CQMA681J50
		C830 AUDIO FILM CAPACITOR	CFTXA104J50
		C831 MYLOR FILM CAPACITOR	CQMA472J50
		C832	CQMXA104J100
		C833	CQMXA473J100
		C834	CFTXA334J50
		C835 ELECTR.CAPACITOR	CEAS100M25
		C836 CERAMIC CAPACITOR	CKCYX103M25
		C837 ELECTR.CAPACITOR	CEAS101M16
		C838 ELECTR.CAPACITOR	CEANP010M50
		C839,840 AUDIO FILM CAPACITOR	CFTXA473J50
		C841 ELECTR.CAPACITOR	CEAS1R5M50
		C842 CERAMIC CAPACITOR	CKMYB152K50
		C843 CERAMIC CAPACITOR	CCMSL330J50
		C844 ELECTR.CAPACITOR	CEAS100M50
		C845 CERAMIC CAPACITOR	CKCYX103M25
		C846,847 ELECTR.CAPACITOR	CEAS470M10
		C848,849 ELECTR.CAPACITOR	CEAS470M16
		C850,851 CERAMIC CAPACITOR	CKCYF103Z50
		C852 AUDIO FILM CAPACITOR	CFTXA104J50
		C853-856 ELECTR.CAPACITOR	CEAS220M16
		C857,858 ELECTR.CAPACITOR	CEAS100M25
		C861 CERAMIC CAPACITOR	CCCSL101J50
		C862 ELECTR.CAPACITOR	CEAS470M10

RESISTORS

Mark	No.	Symbol & Description	Part No.
	R800-804	CARBONFILM RESISTOR	RD1/8PM□□□J
	R807-816	CARBONFILM RESISTOR	RD1/8PM□□□J
⚠	R817	CARBONFILM RESISTOR	RD1/4PMF□□□J
	R818-834	CARBONFILM RESISTOR	RD1/8PM□□□J
⚠	R835	CARBONFILM RESISTOR	RD1/4PMF□□□J
	R836-847	CARBONFILM RESISTOR	RD1/8PM□□□J
	R849, 850	CARBONFILM RESISTOR	RD1/8PM□□□J
	R852-866	CARBONFILM RESISTOR	RD1/8PM□□□J
	R873-876	CARBONFILM RESISTOR	RD1/8PM□□□J
	VR801	VR	VRTB6VS223
	VR802	VR	VRTS6VS103

VIDEO ASSEMBLY(AWZ2663)

SEMICONDUCTORS

	IC501		NJM78M56FA
	IC601		LA7951
	IC602		NJM2233BS
	IC603		LA7952
	IC605		LC7570
	Q601	TRANSISTOR	2SC1815
	Q602	TRANSISTOR	2SC2458
	Q603	TRANSISTOR	2SD880
	Q607-609	TRANSISTOR	RN1203
	Q610-612	TRANSISTOR	2SA1048
	Q613-618	TRANSISTOR	2SC2878
	Q619, 620	TRANSISTOR	2SC2603
	D601, 602	ZENER DIODE	RD6.8ESB
	D603	ZENER DIODE	RD20ESB
	D604, 605	DIODE	1SS252

COILS/TRANSFORMERS

	L601	AXIAL INDUCTOR	LAU820K
	L602	AXIAL INDUCTOR	LAU680K
	L603	AXIAL INDUCTOR	LAU820K

CAPACITORS

	C501	CERAMIC CAPACITOR	CKCYX104M25
	C502	ELECTR. CAPACITOR	CEAS470M10
	C601	ELECTR. CAPACITOR	CEAS101M10
	C602	CERAMIC CAPACITOR	CKCYX104M25
	C603-607	ELECTR. CAPACITOR	CEAS100M25
	C608, 609	ELECTR. CAPACITOR	CEAS471M6
	C610	ELECTR. CAPACITOR	CEAS471M10
	C611-613	ELECTR. CAPACITOR	CEAS100M25
	C614-616	ELECTR. CAPACITOR	CEAS470M16
	C617-619	CERAMIC CAPACITOR	CKCYF103Z50
	C620-622	CERAMIC CAPACITOR	CKCYX103M25
	C623, 624	ELECTR. CAPACITOR	CEAS100M25
	C625	ELECTR. CAPACITOR	CEAS470M16
	C626	ELECTR. CAPACITOR	CEAS100M25
	C627-629	ELECTR. CAPACITOR	CEAS2R2M50
	C630, 631	ELECTR. CAPACITOR	CEYA100M25
	C632	ELECTR. CAPACITOR	CEAS4R7M50
	C633-635	CERAMIC CAPACITOR	CKCYF103Z50
	C636	ELECTR. CAPACITOR	CEAS222M35
	C638	ELECTR. CAPACITOR	CEAS2R2M50
	C639	CERAMIC CAPACITOR	CKMYB102K50
	C640	ELECTR. CAPACITOR	CEANP0R1M50

RESISTORS

	R25, 26	CARBONFILM RESISTOR	RD1/8PM□□□J
	R601-621	CARBONFILM RESISTOR	RD1/8PM□□□J
	R626-628	CARBONFILM RESISTOR	RD1/8PM□□□J
	R630-635	CARBONFILM RESISTOR	RD1/8PM□□□J
	R637-641	CARBONFILM RESISTOR	RD1/8PM□□□J
⚠	R642	FUSLIBLE RESISTOR	RFA1/4PS□□□J
⚠	R643	CARBONFILM RESISTOR	RD1/4PMF□□□J
	R645, 646	CARBONFILM RESISTOR	RD1/8PM□□□J
⚠	R647, 648	METAL OXIDE RESISTOR	RS1PMF□□□J
	R649	CARBONFILM RESISTOR	RD1/8PM□□□J
	R653-668	CARBONFILM RESISTOR	RD1/8PM□□□J
⚠	R669	FUSLIBLE RESISTOR	RFA1/4PS□□□J
	R670-679	CARBONFILM RESISTOR	RD1/8PM□□□J
	R680, 681	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R682-692	CARBONFILM RESISTOR	RD1/8PM□□□J
	R698	CARBONFILM RESISTOR	RD1/8PM□□□J

OTHERS

	CN102		KPE8
	CN103		KPE7
	CN106	JUMPER CONNECTOR 3-P	KPC3
	CN109		KPE10
	CN115		KPE8
	CN123	JUMPER CONNECTOR 3-P	KPC3
	CN124		KPC4

R.SP ASSEMBLY(AWZ2922)

SEMICONDUCTORS

	Q703	TRANSISTOR	2SC2458
	D701	DIODE	1SS252

RELAYS

	RY6	RELAY	ASR1005

COILS/TRANSFORMERS

	L704, 705	COIL	ATH1011

CAPACITORS

	C730, 731	MYLOR FILM CAPACITOR	CQMA103J50

RESISTORS

⚠	R746-749	CARBONFILM RESISTOR	RD1/4PMFL□□□J
	R750, 751	CARBONFILM RESISTOR	RD1/8PM□□□J
⚠	R752	FUSLIBLE RESISTOR	RFA1/4PS□□□J
	R756	CARBONFILM RESISTOR	RD1/8PM□□□J

OTHERS

	SPEAKER TERMINAL 4-P		AKE-109
	JACK		AKN1006
	SOCKET 9-P		AKP-076
	CN104		KPE3
	CN111	JUMPER CONNECTOR 3-P	KPC3

5. ADJUSTMENTS

● Preparations

1. Input the 1 kHz, 150 mV phase signal into the VDP input terminal, then set to VDP function.
2. Set the unit to the DOLBY PRO LOGIC SURROUND mode.
3. Short TP1 and TP2 inside the PRO LOGIC assembly. (Remove the short after the adjustment.)
4. Set the master control and the rear control to maximum during adjustment.

● Adjustment procedure

1. Adjust VR801 so that the REAR AMP PRE OUT left and right voltages become minimum.
2. Adjust VR802 so that the DC voltages at both sides of R860 become approx. ± 0 mV (0 ± 50 mV).
3. Repeat procedures 1 and 2 above until optimum is obtained.

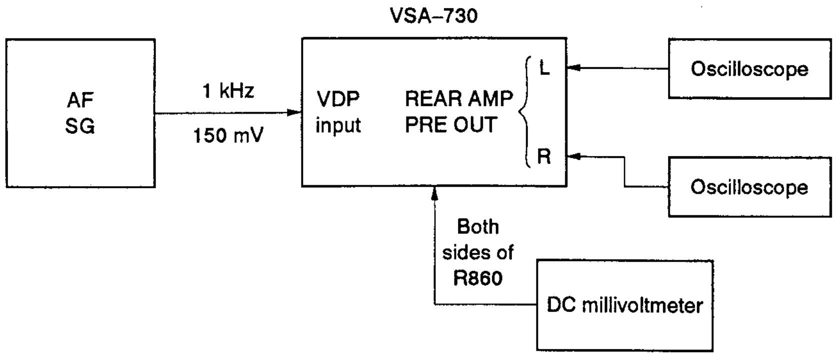

VSA–730
AF SG
1 kHz
150 mV
VDP input
REAR AMP PRE OUT
L
R
Oscilloscope
Oscilloscope
Both sides of R860
DC millivoltmeter

Fig. 5-1. Connections

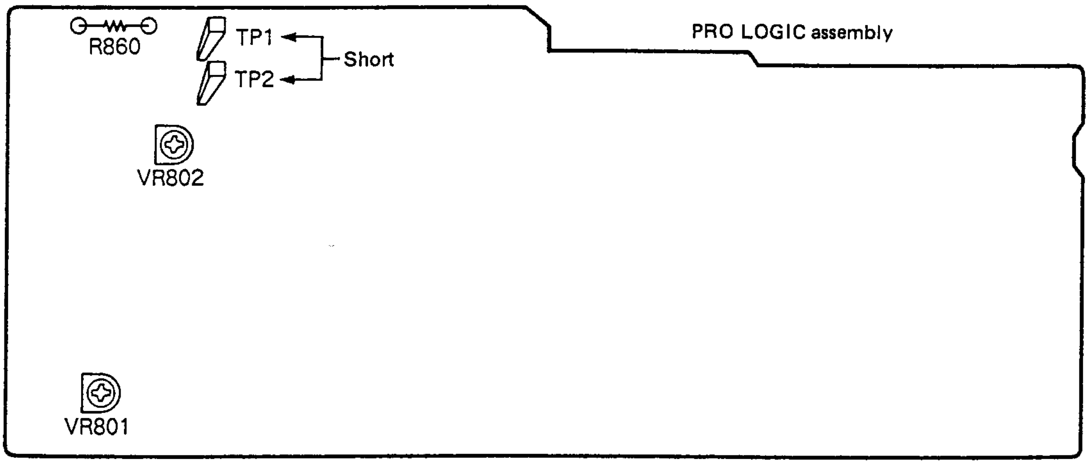

R860
TP1
TP2
Short
PRO LOGIC assembly
VR802
VR801

Fig. 5-2. Adjustment

5. RÉGLAGES

● Préparations

1. Entrer le signal de phase de 1 kHz, 150 mV dans la borne d'entrée du lecteur de vidéo disc VD, puis régler sur la fonction VDP.
2. Régler l'unité sur le mode DOLBY PRO LOGIC SURROUND.
3. Court-circuiter TP1 et TP2 à l'ensemble PRO LOGIC. (Décourt-circuiter apres le réglage).
4. Durant le réglage, mettre le volume principal et le volume arrière au maximum.

● Procédure de réglage

1. Régler VR801 afin que les tensions gauche et droite de sortie du préamplificateur arrière REAR AMP PRE OUT viennent au minimum.
2. Régler VR802 afin que les tensions CC aux deux cotes de R860 deviennent approx. ± 0 mV (0 ± 50 mV).
3. Répéter les procédures 1 et 2 ci-dessus jusqu'a l'obtention du réglage optimal.

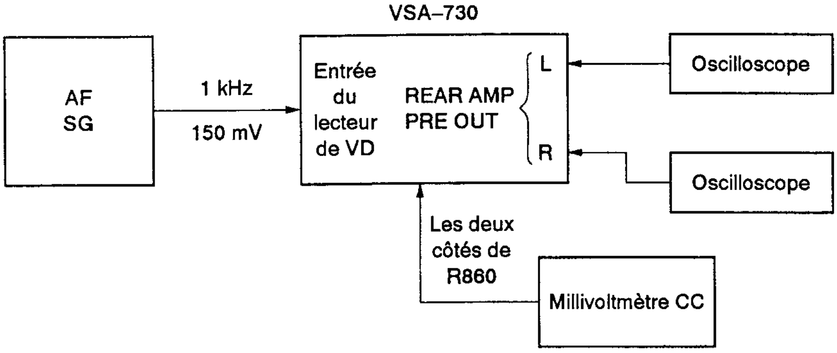

VSA–730
AF SG
1 kHz
150 mV
Entrée du lecteur de VD
REAR AMP PRE OUT
L
R
Oscilloscope
Oscilloscope
Les deux côtés de R860
Millivoltmètre CC

Fig. 5-1. Connexions

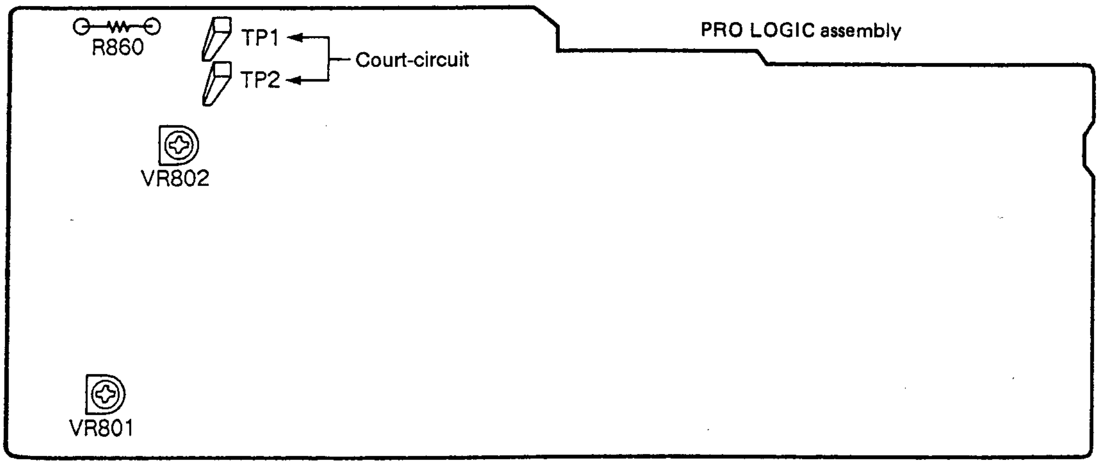

R860
TP1
TP2
Court-circuit
PRO LOGIC assembly
VR802
VR801

Fig. 5-2. Réglage

5. AJUSTES

● Preparaciones

1. Ingrese la señal de fase de 1 kHz y 150 mV por el terminal de entrada de VDP, y active la función VDP.
2. Ponga la unidad en el modo DOLBY PRO LOGIC SURROUND.
3. Ponga TP1 y TP2 en cortocircuito dentro del conjunto PRO LOGIC (desconéctelos después del ajuste).
4. Antes de comenzar el ajuste, coloque el control principal de volumen y el control trasero en màximo.

● Procedimiento de ajuste

1. Ajuste VR801 de modo que las tensiones en los terminales REAR AMP PRE OUT derecho e izquierdo sean mínimas.
2. Ajuste VR802 de modo que la tensión de DC a ambos lados de R860 sea 0 mV ± 50 mV.
3. Repita los pasos 1 y 2 hasta obtener el ajuste óptimo.

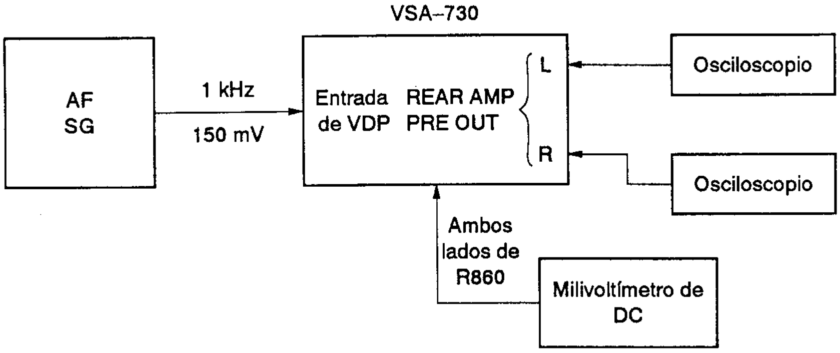

VSA-730
AF SG
1 kHz
150 mV
Entrada de VDP
REAR AMP PRE OUT
L
R
Osciloscopio
Osciloscopio
Ambos lados de R860
Milivoltímetro de DC

Fig. 5-1. Conexiones

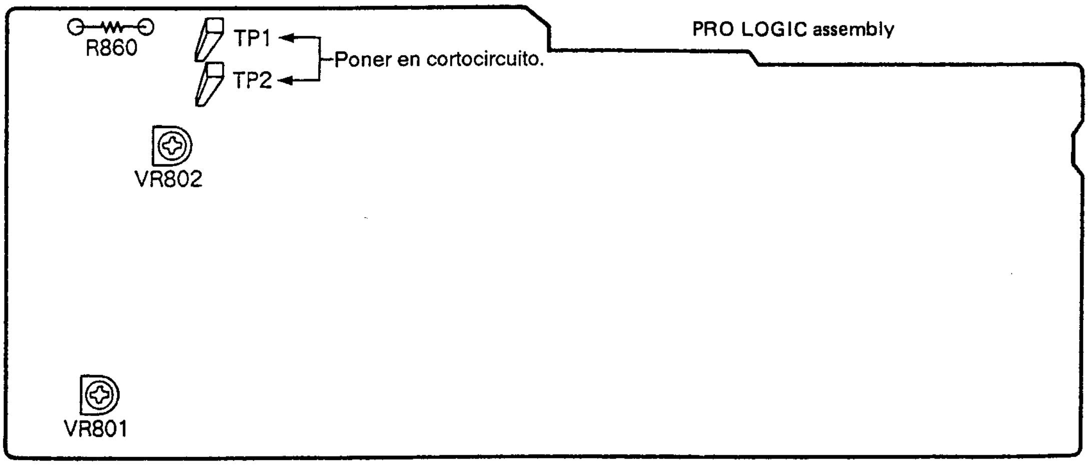

R860
TP1
TP2
Poner en cortocircuito.
PRO LOGIC assembly
VR802
VR801

Fig. 5-2. Ajuste

6. IC INFORMATION

6.1 LA7952 (IC603)

S2 (Pin 2)	S3 (Pin 3)	V_{IN} 1 (Pin 4)	V_{IN} 2 (Pin 6)	V_{IN} 3 (Pin 8)	V_{IN} 4 (Pin 9)
L	L	OFF	OFF	OFF	ON
H	L	OFF	OFF	ON	OFF
L	H	OFF	ON	OFF	OFF
H	H	ON	OFF	OFF	OFF

Table 6−1. Truth Table

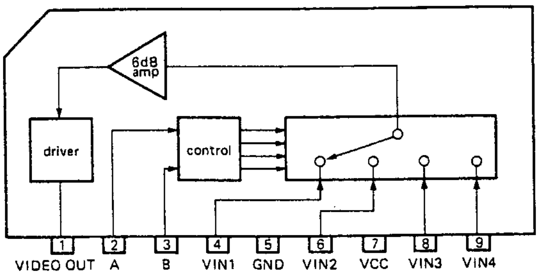

6dB amp
driver
control
1 VIDEO OUT
2 A
3 B
4 VIN1
5 GND
6 VIN2
7 VCC
8 VIN3
9 VIN4

Fig. 6−1. Equivalent Circuit Diagram

6.2 LA7951 (IC601)

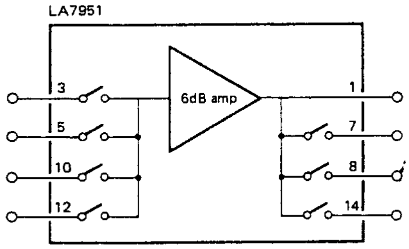

LA7951
3
5
10
12
6dB amp
1
7
8
14

Fig. 6−2. Video Editing System

Control			Input				Output			
MUTE (Pin 6)	1 (Pin 13)	2 (Pin 9)	0 (Pin 3)	1 (Pin 5)	2 (Pin 10)	3 (Pin 12)	COMMON (Pin 1)	1 (Pin 7)	2 (Pin 8)	3 (Pin 14)
L	–	–	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
H	L	L	ON	OFF	OFF	OFF	ON	ON	ON	ON
H	L	H	OFF	ON	OFF	OFF	ON	OFF	ON	ON
H	H	L	OFF	OFF	ON	OFF	ON	ON	OFF	ON
H	H	H	OFF	OFF	OFF	ON	ON	ON	ON	OFF

Table 6−2. Truth Table

6.3 M51132L (IC812)

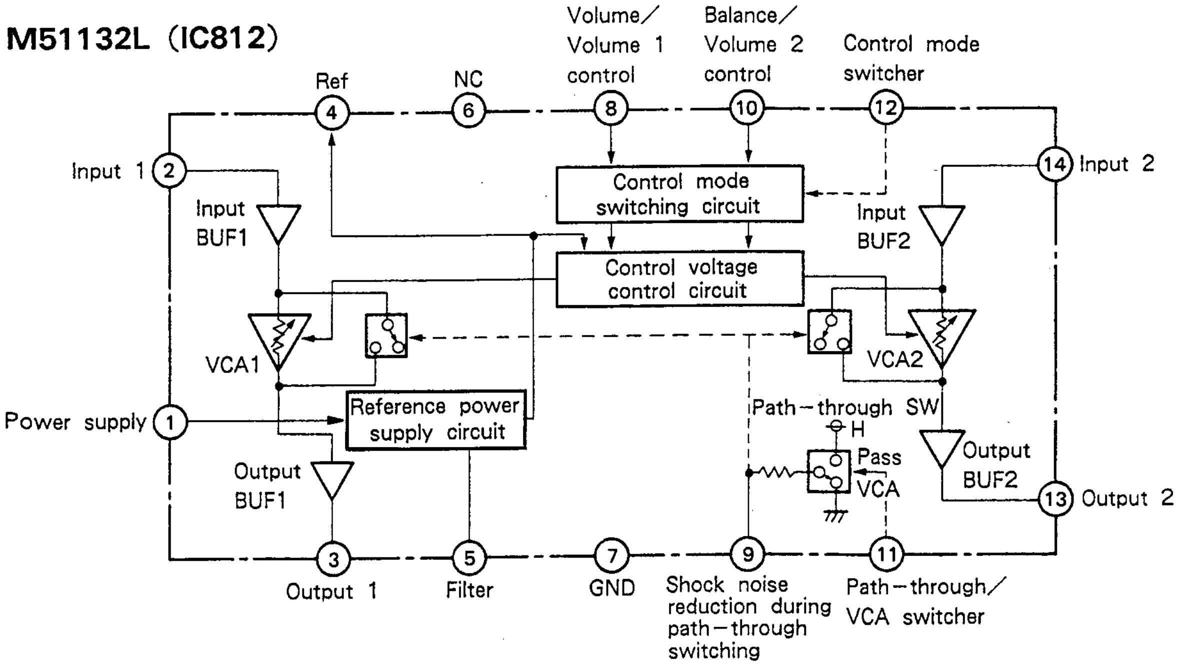

Ref
4
NC
6
Volume/ Volume 1 control
8
Balance/ Volume 2 control
10
Control mode switcher
12
Input 1
2
14
Input 2
Input BUF1
Control mode switching circuit
Input BUF2
Control voltage control circuit
VCA1
VCA2
Power supply
1
Reference power supply circuit
Path−through SW
H
Pass
VCA
Output BUF1
Output BUF2
13
Output 2
3
Output 1
5
Filter
7
GND
9
Shock noise reduction during path−through switching
11
Path−through/ VCA switcher

Fig. 6−3. Block Diagram

6.4 PDG046−A

Pin No.	Symbol	Name	I/O	Function	During back up	Active
1	a	FL segment signal output	O	FL segment	L	H
2	b					
3	c					
4	d					
5	e					
6	f					
7	g					
8	h					
9	j					
10	k					
11	m					
12	n					
13	p					
14	r					
15	s					
16	t					
17	G12	FL timing signal output	O	FL grid	L	H
18	G11					
19	G10					
20	G9					
21	G8					
22	G7					
23	G6					
24	G5					
25	G4					
26	G3					
27	G2					
28	G1					
29	INT	External interruption	I	Not used (Connected to Vss)		−
30	XTAL	Clock output	O	} 4.19 MHz ceramic resonator		−
31	EXTAL	Clock input	I			
32	$\overline{RST}$	Reset input	I	External reset input		L
33	NC			OPEN		−
34	V_{DD}	Power supply voltage	I	Positive power supply (+5V) terminal		−
35	I_0	PORT I	O	Key matrix output	L	
36	I_1					
37	I_2					
38	I_3					
39	B_0	PORT B	O	Key matrix output	L	
40	B_1					

Table 6−3−1. PDG046−A Pin Function Table

Pin No.	Symbol	Name	I/O	Function	During back up	Active
41	B_2	PORT B	O	Key matrix output	L	
42	B_3					
43	NC			OPEN		–
44	$\overline{SC}$	Serial clock	O	Serial data clock	L	H
45	SO	Serial output	O	Serial data output	L	H
46	PX^2	PORT X	I	SUPER IMPOSE $\overline{\text{VIDEO}}$ input "L" when used/ "H" when not used		L
47	A_0	PORT A	O	Not used	L	H
48	A_1			Not used	L	H
49	A_2			Electrical VOL. IC (TA7291S) IN2 UP	L	L
50	A_3			Electric VOL. IC (TA7291S) IN1 DOWN	L	L
51	F_0	PORT F	I	Not used (Connected to Vss)		–
52	F_1			J : L/Overseas : H switching		–
53	F_2			Key matrix input		
54	F_3					
55	E_0	PORT E	I	Key matrix input		
56	E_1					
57	E_2					
58	E_3					
59	RY_0	PORT Y	O	PRO logic IC (CXD1067P) strobe	L	H
60	RY_1			LED IC (PD0012A) $\overline{\text{CHIP ENABLE}}$	L	L
61	WP	Wake up input	I	AC input		
62	RMC	Remote control input	I	Remocon signal input		
63	D_0	PORT D	O	Not used	L	L
64	D_1			Front BAL.(TC9154AP), TONE (TC9184P) strobe	L	H
65	D_2			FUNC. REC IC (TC9162N, 9163N, 9164N) strobe	L	H
66	D_3			V-FUNC. surround IC (LC7570) WR	L	H
67	C_0	PORT C	O	Rear VOL IC (TC9154AP) strobe	L	H
68	C_1			Center VOL IC (TC9154AP) strobe	L	H
69	C_2			Protection output	L	H
70	C_3			Power relay	L	H
71	Vss	GND voltage	I	GND terminal		–
72	TX	32 kHz T/C clock output	O	Not used (OPEN)		–
73	NC			OPEN		–
74	TEX	32 kHz T/C clock input	I	Not used (Connected to V_{DD})		–
75	V_{REF}	Reference voltage input	I	Not used (Connected to V_{DD})		–
76	V_{FDP}	Power supply for FL	I	−31V		–
77	H_0	PORT H	O	Not used (OPEN)		–
78	H_1			Rear mute	L	L
79	H_2			Center mute	L	L
80	H_3			Front mute	L	L

Table 6-3-2. PDG046-A Pin Function Table

6.5 M51198P

Pin No.	Name	Abbreviation	Usage	Standard output voltage
1	Digital V_{DD}	DIG. V_{DD}	Apply 4.5 to 5.5V (Rating : 5V)	–
2	Oscillator input	OSC. IN	Connect 3.27 MHz ceramic resonator, or external clock.	–
3	Oscillator output	OSC. OUT	Connect 3.27 MHz ceramic resonator, or open when using external clock.	5V
4	DEL1／REQ	DEL1／REQ	Used as DEL1 terminal during easy mode, or as REQ terminal during microprocessor mode.	–
5	DEL2／SECK	DEL2／SECK	Used as DEL2 terminal during easy mode, or as SECK terminal during microprocessor mode.	–
6	DEL3／SEDATA	DEL3／SEDATA	Used as DEL3 terminal during easy mode, or as SEDATA terminal during microprocessor mode.	–
7	DEL4	DEL4	80 µ sec mode control terminal.	–
8	µ COM／EASY	µ COM／EASY	Microprocessor mode／easy mode switching pin	–
9	Mute control pin	MUTE	Manual mute control pin	–
10	Mute timing selection	MUTE TIME	Auto mute timing selecting pin	–
11	Digital GND	DIG. GND		0V
12	Analog GND	ANG. GND		0V
13	Low pass filter 2 output	LPF2 OUT	Forms the 2nd stage low pass filter consisting of external capacitor and resistor	2.5V
14	Low pass filter 1 input	LPF2 IN		2.5V
15	OP AMP 2 output	OP2 OUT	Forms the mirror integrator consisting of external capacitor	2.5V
16	OP AMP 2 input	OP2 IN		2.5V
17	Current control 2	CC2		0.7 (For no signal)
18	Current control 1	CC1		
19	Reference	REF	=1／2Vcc	2.5V
20	OP AMP 1 input	OP1 IN	Forms the mirror integrator consisting of external capacitor	2.5V
21	OP AMP 1 output	OP1 OUT		2.5V
22	Low pass filter 1 output	LPF1 OUT	Forms the 2nd stage low pass filter consisting of external capacitor and resistor	2.5V
23	Low pass filter 1 input	LPF1 IN		2.5V
24	Analog Vcc	ANG. Vcc	Apply 4.5V to 5.5V (Rating : 5V)	–

Table 6–4. M51198P Pin Name

7. PROGRAMABLE REMOTE CONTROL UNIT

7.1 P.C. BOARD PATTERN

NOTE:

Indicates a chip resistor.

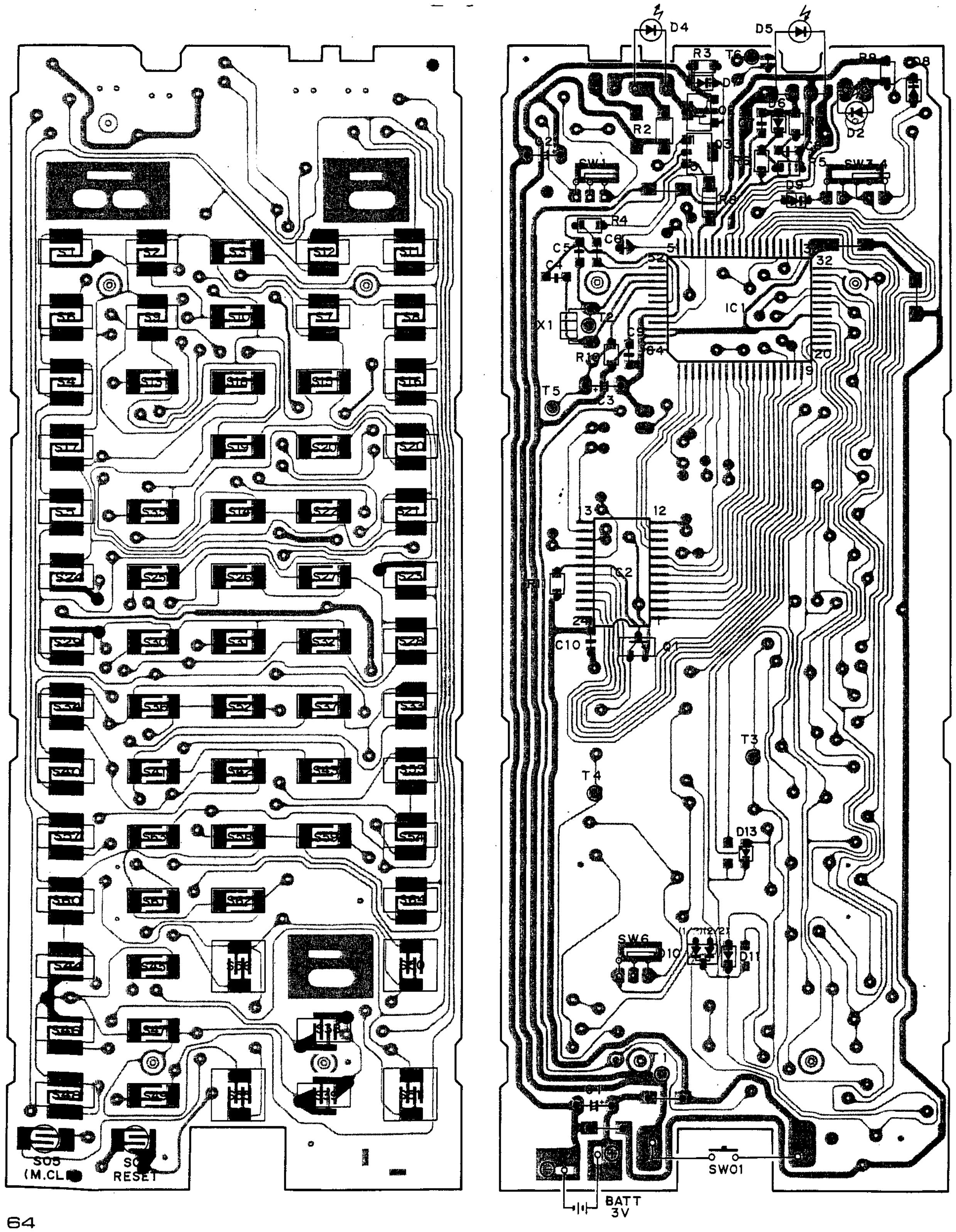
Indicates a chip capacitor.

Indicates a chip transistor.

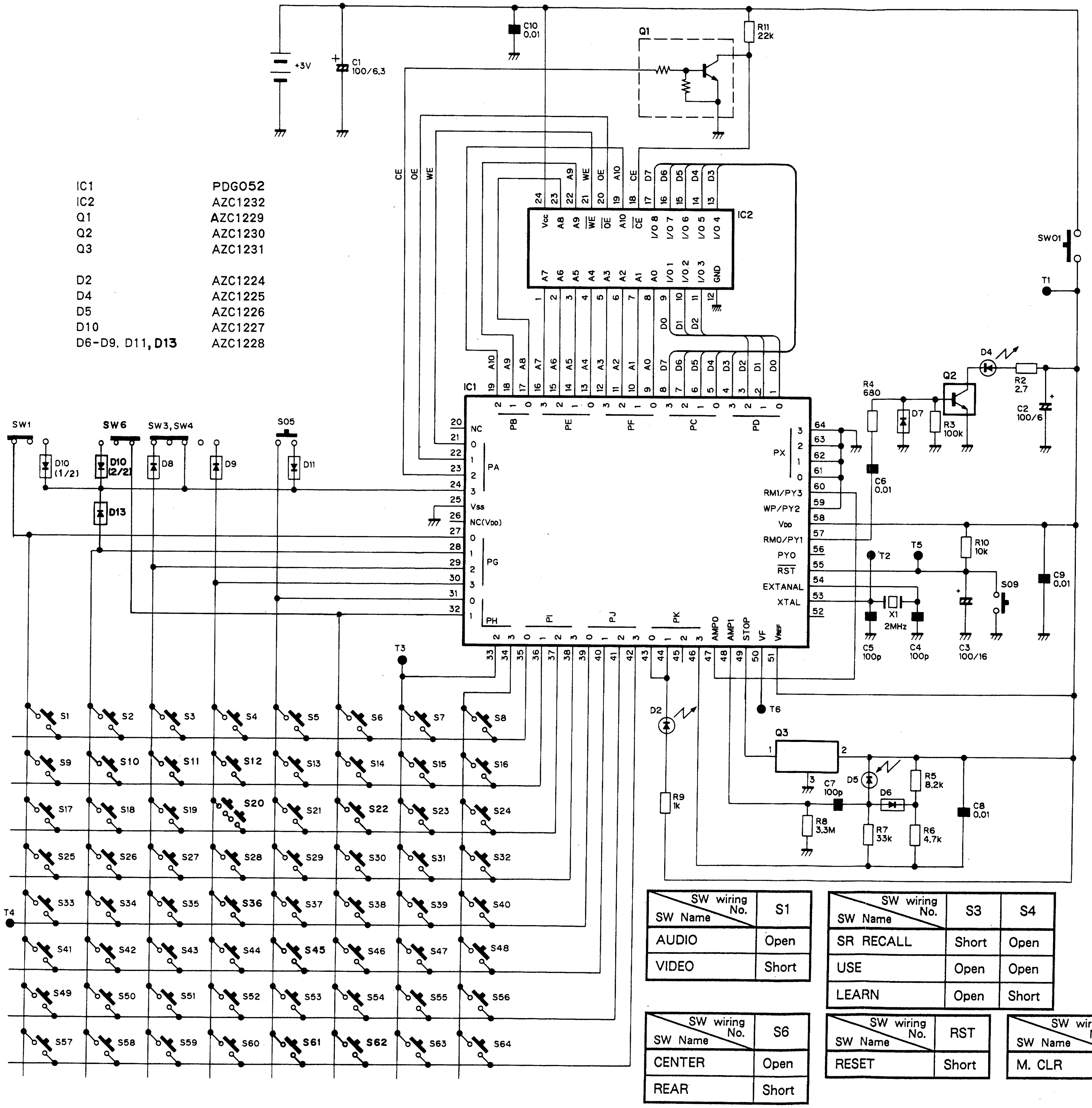
Indicates a chip diode.

Indicates a chip inductor.

Diod


D4
D5
R3
T6
D1
R9
D8
D6
R2
D2
Q3
R6
R5
Q2
SW1
SW3
D9
R8
R4
C6
C5
C4
52
51
33
32
IC1
X1
T2
C9
R10
64
20
19
T5
C3
13
12
IC2
R1
24
1
C10
Q1
T3
T4
D13
SW6
D10
D11
T1
SW01
BATT
3V
S05
(M.CL)
S06
RESET
S1
S2
S3
S12
S11
S6
S8
S10
S7
S4
S15
S16
S13
S14
S17
S19
S20
S29
S30
S31
S32
S47
S53
S55
S59
S60
S61
S62
S64

7.2 SCHEMATIC DIAGRAM


+3V
C1 100/6.3
C10 0.01
Q1
R11 22k
IC2
Vcc A8 A9 WE OE A10 CE I/O 8 I/O 7 I/O 6 I/O 5 I/O 4
A7 A6 A5 A4 A3 A2 A1 A0 I/O 1 I/O 2 I/O 3 GND
CE OE WE A9 WE OE A10 CE D7 D6 D5 D4 D3
D0 D1 D2
IC1
A10 A9 A8 A7 A6 A5 A4 A3 A2 A1 A0 D7 D6 D5 D4 D3 D2 D1 D0
PB PE PF PC PD
NC PA Vss NC(VDD) PG PH PI PJ PK
PX RM1/PY3 WP/PY2 VDD RM0/PY1 PY0 RST EXTANAL XTAL
AMP0 AMP1 STOP VF VREF
SW1 SW6 SW3, SW4 S05 SW01
D10 (1/2) D10 (2/2) D8 D9 D11 D13
T1 T2 T3 T4 T5 T6
D4 R2 2.7 C2 100/6
R4 680 D7 Q2 R3 100k
C6 0.01
R10 10k S09 C9 0.01
X1 2MHz C5 100p C4 100p C3 100/16
D2 R9 1k
Q3
C7 100p D5 D6 R5 8.2k R8 3.3M R7 33k R6 4.7k C8 0.01
S1 S2 S3 S4 S5 S6 S7 S8
S9 S10 S11 S12 S13 S14 S15 S16
S17 S18 S19 S20 S21 S22 S23 S24
S25 S26 S27 S28 S29 S30 S31 S32
S33 S34 S35 S36 S37 S38 S39 S40
S41 S42 S43 S44 S45 S46 S47 S48
S49 S50 S51 S52 S53 S54 S55 S56
S57 S58 S59 S60 S61 S62 S63 S64

IC1	PDG052
IC2	AZC1232
Q1	AZC1229
Q2	AZC1230
Q3	AZC1231
D2	AZC1224
D4	AZC1225
D5	AZC1226
D10	AZC1227
D6-D9, D11, D13	AZC1228

SW wiring No. SW Name	S1
AUDIO	Open
VIDEO	Short

SW wiring No. SW Name	S3	S4
SR RECALL	Short	Open
USE	Open	Open
LEARN	Open	Short

SW wiring No. SW Name	S6
CENTER	Open
REAR	Short

SW wiring No. SW Name	RST
RESET	Short

SW wiring No. SW Name	S5
M. CLR	Short

1. RESISTORS :
   Indicated in Ω, 1/4W, 1/6W, 1/8W, ±5% tolerance unless otherwise noted k; kΩ, M; MΩ, (F); ±1%, (G); ±2%, (K); ±10%, (M); ±20% tolerance:
2. CAPACITORS :
   Indicated in capacity (μF) /voltage (V) unless otherwise noted p ; pF.
   Indication without voltage is 50V except electrolytic capacitor.
3. VOLTAGE CURRENT :
   ◺ ; DC voltage (V) at play state.
   ⬅mA ; DC current at play state.
   Value in ( ) is DC current at stop state.
4. OTHERS :
   ➡ : Signal route.
   ⊘ ; Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ※ marked capacitors and resistors have parts numbers.
5. · SWITCHES (Underline indicates switch position)

S1 : TAPE 1/VCR 1
S2 : TAPE 2/VCR 2
S3 : CD/VDP
S4 : ◀◀ (DC/VDP)
S5 : ◀◀ (TAPE II/VCR)
S6 : POWER (VDP)
S7 : CD ⏮/VDP CHP/FR−TM
S8 : CD ⏭/VDP SEARCH
S9 : PROGRAM
S10 : CD DISC/VDP DISPLAY
S11 : PHONO/VIDEO AUX (V・ADPT)
S12 : TUNER/TV (VIDEO)
S13 : ❚❚ (CD/VDP)
S14 : ■ (TAPE II/VCR)
S15 : ▶ (CD/VDP)
S16 : ▶▶ (CD/VDP)
S17 : POWER (VCR)
S18 : ■ (CD/VDP)
S19 : ❚❚ (TAPE II/VCR)
S20 : REC (TAPE II/VCR)
S21 : ▶▶ (TAPE II/VCR)
S22 : ▶ (TAPE II/VCR)
S23 : TAPE I ▶▶/VCR CH+
S24 : TAPE I ◀◀/TV FANC TV
S25 : TAPE I ◀/TV FANC VDP
S26 : TAPE I ■/TV FANC VCR
S27 : TAPE I ▶/VCR CH−
S28 : TUNER STATION+/TV CH+
S29 : POWER (TV)
S30 : CD +10/TV DISPLAY
S31 : TUNER 12/24/TV FANC
S32 : TUNER BAND/TV DUAL
S33 : TUNER STATION/TV CH−
S34 : 1, 13 (TUN/CD, TV/VDP)
S35 : TAPE II ◀/VCR TV/VCR
S36 : 2, 14 (TUN/CD, TV/VDP)
S37 : 4, 16 (TUN/CD, TV/VDP)
S38 : SURROUND BALANCE→ (AMP)
S39 : TEST TONE
S40 : 5, 17 (TUN/CD, TV/VDP)
S41 : 6, 18 (TUN/CD, TV/VDP)
S42 : 7, 19 (TUN/CD, TV/VDP)
S43 : 8, 20 (TUN/CD, TV/VDP)
S44 : SURROUND MODE (AMP)
S45 : CENTER MODE (AMP)
S46 : DELAY TIME (AMP)
S47 : SURROUND BALANCE← (AMP)
S48 : SLEEP (AMP/TV)
S49 : DIRECT/V・SEL (AMP)
S50 : VOLUME+ (AMP)
S51 : VOLUME− (AMP)
S52 : 3, 15 (TUN/CD, TV/VDP)
S53 : VOLUME+ (TV)
S54 : VOLUME− (TV)
S55 : SURROUND BALANCE+ (AMP)
S56 : SURROUND BALANCE− (AMP)
S57 : 9, 21 (TUN/CD, TV/VDP)
S58 : 11, 23 MEMORY (TUN/CD, TV/VDP)
S59 : 12, 24 CLEAR (TUN/CD, TV/VDP)
S60 : POWER (AMP)
S61 : ACOUSTIC (AMP)
S62 : SOUND FIELD (AMP)
S63 : 0/10, 22 (TUN/CD, TV/VDP)
S64 : MUTING (AMP)

SW1 : AUDIO−VIDEO
SW3, SW4 : RECALL−USE−LEARN
SW6 : CENTER/FRONT−REAR
S05 : M. CLR
S09 : RESET
SW01 : REMOTE POWER

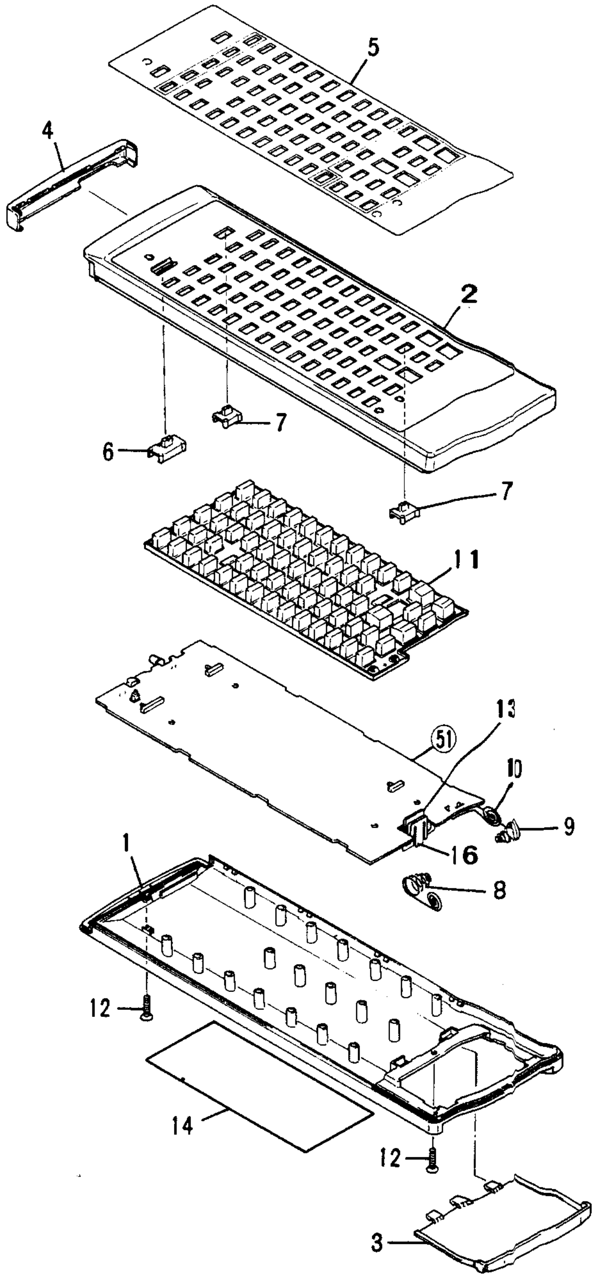
NOTES :

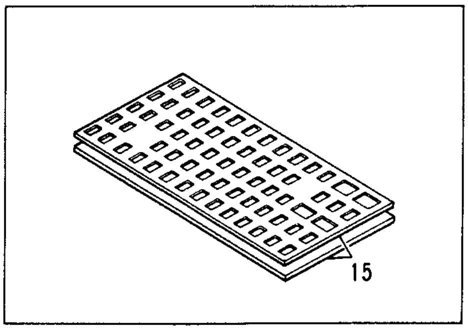
- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the impotance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

7.3 EXPLODED VIEW AND PARTS LIST

Parts List

Mark	No.	Part No.	Description
	1	AZN1968	Case (A)
	2	AZN1969	Case (B)
	3	AZN1970	Battery cover
	4	AZA1139	Filter
	5	AZA1213	Aluminum plate
	6	AZA1142	Knob (A)
	7	AZA1143	Knob (B)
	8	AZB1268	Contact spring
	9	AZB1269	Contact spring
	10	AZB1270	Contact spring
	11	AZA1216	Conduction rubber sheet
	12	AZA1146	Screw
	13	AZS1077	Contact side (SW01)
	14	AZA1241	Label
	15	AZA1147	Characters sheet
	16	AZS1092	Contact side (SW01)
	51		PCB board





7.4 ELECTRICAL PARTS LIST

NOTES :

- Parts without part number cannot be supplied.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The ⚠ mark found on some component parts indicates the impotance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω　56×10^1　561 ························ RD1／4PS $\boxed{5}\boxed{6}\boxed{1}$ J
47k Ω　47×10^3　473 ························ RD1／4PS $\boxed{4}\boxed{7}\boxed{3}$ J
0.5 Ω　0R5 ························ RN2H $\boxed{0}\boxed{R}\boxed{5}$ K
1 Ω　010 ························ RS1P $\boxed{0}\boxed{1}\boxed{0}$ K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω　562×10^1　5621 ························ RN1／4SR $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$ F

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC1	PDG052
	IC2	AZC1232
	Q1	AZC1229
	Q2	AZC1230
	Q3	AZC1231
	D2	AZC1224
	D4	AZC1225
	D5	AZC1226
	D10	AZC1227
	D6−D9, D11, D13	AZC1228

SWITCHES

Mark	Symbol & Description	Part No.
	SW1, SW6 Slide SW	AZS1073
	SW3, SW4 Slide SW	AZS1074
	SW01 Contact side	AZS1077

CAPACITORS

Mark	Symbol & Description	Part No.
	C6, C8−C10	AZC1220
	C7	AZC1221
	C4, C5	AZC1222
	C1, C2	AZC1253
	C3	AZC1254

RESISTORS

Mark	Symbol & Description	Part No.
	R3 (100k Ω, ⅛)	AZC1210
	R7 (33k Ω, ⅛)	AZC1211
	R11 (22k Ω, ⅛)	AZC1212
	R10 (10k Ω, ⅛)	AZC1213
	R5 (8.2k Ω, ⅛)	AZC1214
	R6 (4.7k Ω, ⅛)	AZC1215
	R9 (1k Ω, ⅛)	AZC1216
	R4 (680 Ω, ⅛)	AZC1217
	R8 (3.3M Ω, ¼)	AZC1218
	R2 (2.7 Ω, ¼)	AZC1219

OTHERS

Mark	Symbol & Description	Part No.
	X1 Ceramic lock	AZC1223

8. FOR SD AND YPW TYPES

NOTES :

- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the impotance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

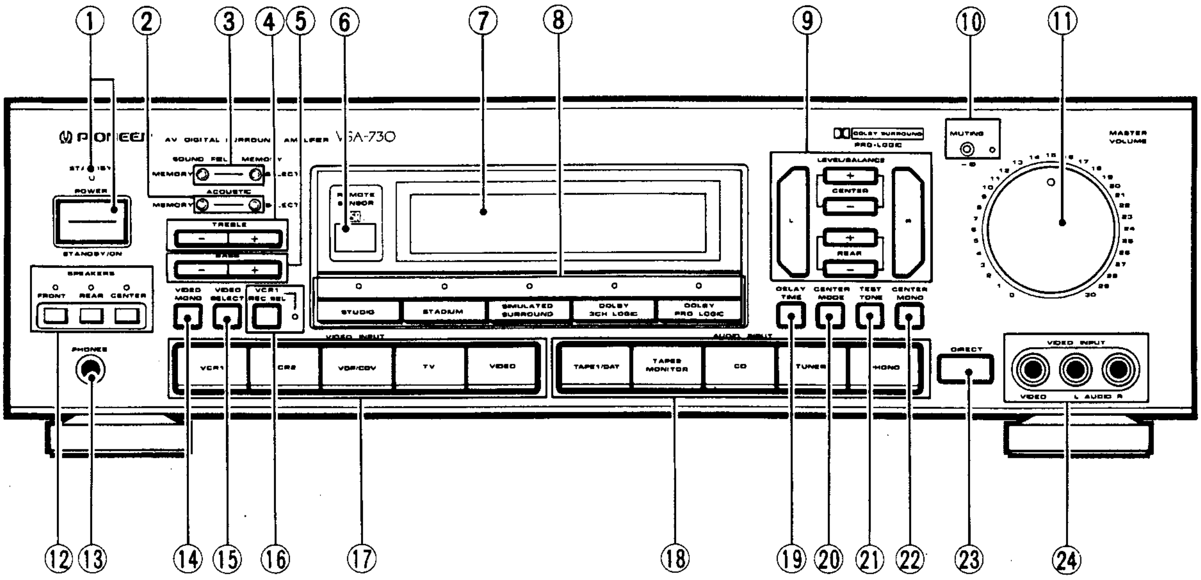
The VSA−730/SD and YPW types are the same as the VSA−730/HE type with the exception of the following sections.

Mark	Symbol & Description	Part No.			Remarks
		VSA−730/ HE type	VSA−730/ SD type	VSA−730/ YPW type	
	S. TRANS assembly	Non supply	Non supply	Non supply	*1
⚠	AC power cord	ADG1021	ADG1015	ADG−064	
⚠	FU3, FU4 Fuse	AEK−400	AEK−125	AEK−400	
⚠	FU1 Fuse	AEK−403	……	AEK−403	
⚠	FU1, FU5 Fuse	……	AEK−123	……	
⚠	T1 Power transformer (AC220/240V)	ATS1270	……	ATS1270	
⚠	T1 Power transformer (AC110/120−127/220/240V)	……	ATS1271	……	
⚠	S3 Voltage selector	……	AKX−507	……	
⚠	AC socket	……	AKP1015	……	
	FL filter	AAK1795	AAK1941	AAK1795	
	C42, C43 Capacitor	……	CQMA473J50	……	
	Operating instructions (Dutch/Swedish/Spanish/ Portguese)	ARC1206	……	……	
	Operating instructions (English/German/French/Italian)	ARE1159	……	……	
	Operating instructions (English)	……	ARB1243	ARB1243	

*1 ; S. TRANS assembly (SD type) and S. TRANS assembly (HE type) are different in jumper wires, fuse holders and terminals only. All the supplied parts for servicing are the same.
And S. TRANS assembly (HE type) and S. TRANS assembly (YPW type) are the same.

9. PANEL FACILITIES

FRONT PANEL FACILITIES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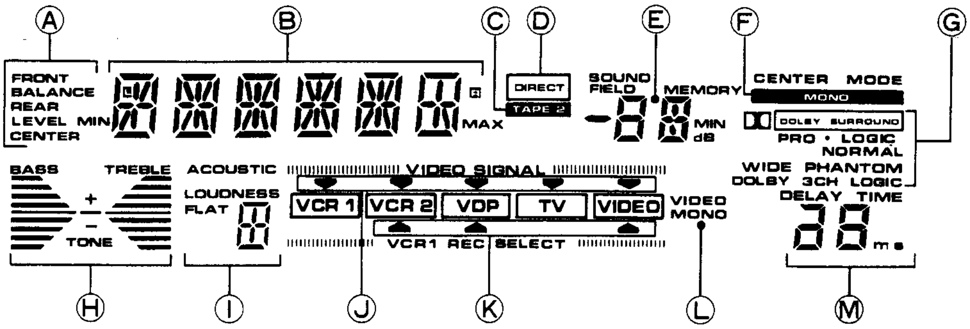
PIONEER
AV DIGITAL SURROUND AMPLIFIER VSA-730
STANDBY
POWER
STANDBY/ON
SOUND FIELD MEMORY
MEMORY
SELECT
ACOUSTIC
TREBLE
BASS
SPEAKERS
FRONT
REAR
CENTER
PHONES
VIDEO MONO
VIDEO SELECT
VCR1 REC SEL
REMOTE SENSOR
STUDIO
STADIUM
SIMULATED SURROUND
DOLBY 3CH LOGIC
DOLBY PRO LOGIC
DOLBY SURROUND PRO-LOGIC
LEVEL/BALANCE
CENTER
REAR
L
R
DELAY TIME
CENTER MODE
TEST TONE
CENTER MONO
MUTING
MASTER VOLUME
VIDEO INPUT
VCR1
VCR2
VDP/CDV
TV
VIDEO
AUDIO INPUT
TAPE1/DAT
TAPE2 MONITOR
CD
TUNER
PHONO
DIRECT
VIDEO
L AUDIO R

Display section


Ⓐ
Ⓑ
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Ⓖ
FRONT
BALANCE
REAR
LEVEL
CENTER
MIN
MAX
DIRECT
TAPE 2
SOUND FIELD
MEMORY
MIN
dB
CENTER MODE
MONO
DOLBY SURROUND
PRO • LOGIC
NORMAL
WIDE PHANTOM
DOLBY 3CH LOGIC
DELAY TIME
ms
BASS
TREBLE
+
−
TONE
ACOUSTIC
LOUDNESS
FLAT
VIDEO SIGNAL
VCR 1
VCR 2
VDP
TV
VIDEO
VCR1 REC SELECT
VIDEO
MONO
Ⓗ
Ⓘ
Ⓙ
Ⓚ
Ⓛ
Ⓜ

① POWER STANDBY/ON switch/indicator

This is the switch for electric power.

ON: When set to the ON position, power is supplied and the unit becomes operational.
The STANDBY indicator is off.

STANDBY: When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.
When the STANDBY indicator lights, the unit is in STANDBY.

② ACOUSTIC switches (MEMORY, SELECT)

Five types of tone (bass and treble) control settings can be preset.

MEMORY:
Press this switch to store in memory.

SELECT:
Tone setting changes as follows when pressing this switch repeatedly:

→ FLAT → LOUDNESS → Memory A →
← Memory E ← Memory D ← Memory C ← Memory B ←

FLAT:
Flat tone characteristics.

LOUDNESS:
Low and high frequencies are emphasized. Use this setting to obtain a full-bodied sound when listening.

Presetting the acoustic memory

1. **Adjust the sound quality as desired using the BASS and TREBLE control switches.**
2. **Press the MEMORY switch.**
3. **Press the SELECT switch and select the sign to which you wish to assign the setting (A – E) while the indicator flashes.**
    - When the indicator lights after flashing, it indicates that the command has been stored in memory. If you don't select memory positions (A – E) while the ACOUSTIC indicator is flashing, nothing will be stored in memory.
    - In this way, the desired tone will be preset in one of the five acoustic memory positions. To preset four other desired tone settings, perform the same operations.
    - To recall the memorized tone settings, press the SELECT switch to select the desired memory position.

NOTE:
- *Even if the power switch is in the STANDBY position, provided the power cord is plugged into an AC wall socket, memory will not be erased. Even if the power cord is disconnected, memory will remain for about 2 weeks.*
- *If the memory is erased, program the presets once more.*

③ SOUND FIELD MEMORY switches (MEMORY, SELECT)

In the SOUND FIELD MEMORY:
- SURROUND MODE
- CENTER MODE (In the case of DOLBY PRO LOGIC SURROUND and DOLBY 3 CH LOGIC. In other cases the center mono out ON/OFF)
- FRONT balance
- CENTER volume level
- REAR balance
- DELAY TIME
- REAR volume level
- ACOUSTIC MEMORY

Up to five of these positions can be stored in memory. It is also possible to select positions previously stored in the memory ("P" is displayed)

[Contents of "P"]
- SURROUND MODE: DOLBY PRO LOGIC SURROUND
- CENTER MODE: NORMAL
- DELAY TIME: 20 ms
- FRONT, REAR balance: CENTER
- REAR, CENTER volume level: both –12 dB
- ACOUSTIC: FLAT

How to use the sound field memory

1. **Select ACOUSTIC MEMORY, SURROUND MODE, and adjust the DELAY TIME, balance and volume level.**
2. **Press the MEMORY switch.**
3. **While the SOUND FIELD MEMORY indicator is flashing, use the SELECT switch to select the position (A–E) to be memorized.**
    - A position is memorized when the SOUND FIELD MEMORY indicator stops flashing and lights. If the position to be memorized (A–E) is not selected while the indicator is flashing, it will not be memorized.
    - TONE settings not stored in ACOUSTIC MEMORY will not be memorized.
    - One of the five possible positions has now been stored in memory. The four remaining positions can be stored in memory using the same procedure.
    - When recalling the contents of the memory, select the memorized position with the SELECT switch.
    - In "P" nothing can be memorized.

④ TREBLE control switches

Use to adjust the high-frequency level. Press the + switch to increase high-frequency level, and the – switch to decrease it.
When both sides (+, –) of the TREBLE control are pressed simultaneously, the treble response will be set to the flat (normal) condition.

⑤ BASS control switches

Use to adjust the low-frequency level. Press the + switch to increase low-frequency level, and the – switch to decrease it.
When both sides (+, –) of the BASS control are pressed simultaneously, the base response will be set to the flat (normal) condition.

NOTE:
- *Sound quality adjustment can only be performed on the front channels. There is no change on the center channel and rear channels.*
- *Adjustment of treble and bass is not possible when the DIRECT switch is ON.*

⑥ REMOTE SENSOR

⑦ Display section

Ⓐ This lights when the front and rear balance and the rear and center volume levels are being adjusted.
During volume adjustment, Ⓑ and Ⓔ display the level, and during balance adjustment, Ⓑ displays the balance.

Ⓑ This gives alphanumeric display of the component selected by the INPUT SELECTOR.
When adjusting front and rear balance and volume or center volume, this displays balance and volume level.
It also gives alphanumeric display of SLEEP when the sleep timer is operating, and alphanumeric display of TEST when the test tone is ON.

Ⓒ This lights when the TAPE 2 MONITOR is ON.

Ⓓ This lights when the DIRECT switch is ON.

Ⓔ Displays the SOUND FIELD MEMORY selection.
During center or rear volume level adjustment, the volume level is displayed.
The time remaining when the SLEEP TIMER is operating is also displayed.
Ⓕ In any mode other than DOLBY PRO LOGIC SURROUND and DOLBY 3 CH LOGIC, if the CENTER MONO switch is pressed, this lights.
Ⓖ Displays the CENTER MODE of the DOLBY PRO LOGIC SURROUND and DOLBY 3 CH LOGIC.
Ⓗ Displays the TREBLE and BASS adjustment settings.
Ⓘ Displays the selected ACOUSTIC MEMORY.
Ⓙ Displays the currently selected video signal.
It also displays the video functions. If the VIDEO SELECT switch is pressed it changes.
Ⓚ Displays the component selected by the VCR 1 REC SEL (A component that can record to VCR 1).
Ⓛ This lights when the VIDEO MONO switch is ON.
Ⓜ Displays the selected DELAY TIME.

⑧ SURROUND MODE switches

Select surround mode to match program source.

STUDIO:
Enjoy the atmosphere of listening to music in a recording studio.

STADIUM:
Ideal for sports broadcasts, etc.

SIMULATED SURROUND:
Gives concert-hall presence to monaural sound (AM, TV, etc.).

DOLBY 3 CH LOGIC:
For playback from a stereo source, or when playing video or audio software bearing the DOLBY SURROUND mark without rear speakers connected, you can enjoy spacious sound field through the front L, front R, and center speakers.

DOLBY PRO LOGIC SURROUND:
Select this setting when watching video tapes or video disc player bearing the DOLBY SURROUND mark.
Press the mode switch that corresponds to the lit indicator once more to switch the surround mode OFF.

⑨ LEVEL/BALANCE adjustment switch

Use this to adjust the center and rear levels when you are in the surround mode, and the center level when center mono out is ON. Press the + side to raise the level, and the − side to decrease the level.
If you press both the + and − side at once, you will return to the initial level setting of −12dB. Rear level adjustment is not possible when the surround mode is OFF.
Adjust the front left and right balance with the L and R switches.

L .... Press to adjust the left level.
R .... Press to adjust the right level.
L, R .... Press both at the same time to return to the center.

⑩ MUTING switch

Press to stop sound temporarily, and the indicator flashes. Press again to return to previous volume level.

⑪ MASTER VOLUME control knob

Use this adjust volume level.
Front and rear volume levels change at the same time.

⑫ SPEAKERS switches/indicators

ON/OFF switches for the speaker systems. An indicator lights when any of these switches is set to ON.

FRONT:
Switches and indicates for the front speaker systems.

REAR:
Switches and indicates for the rear speaker systems.

CENTER:
Switches and indicates for the front center channel speaker system.

⑬ PHONES jack

Connect the plug on your headphones to this jack. To listen to a program through the headphones, set all SPEAKERS switches to the OFF position.

⑭ VIDEO MONO switch

If you set this switch to ON, the sound from a video source connected to the VIDEO INPUT jack on the front panel ㉔ will be monaural. (VIDEO MONO on the display will light). If you connect a component with a monaural output to the L or R input jack, the sound will be the same from both left and right speakers when this switch is set to ON.

⑮ VIDEO SELECT switch

Press this to switch VIDEO OUT (TO MONITOR TV) and VCR OUT in the following sequence: (Audio doesn't change)
The recording selector has priority for VCR 1 video recording.

→ VCR 1 → VCR 2 → VDP (/CDV) → TV
OFF ← VIDEO ←

The display indicator (▼) lights to show the selected item.

⑯ VCR 1 REC SEL switch/indicator

Press this switch to change the source from which the VCR 1 will record in the following order.

→ VCR 2 → VDP (/CDV) → VIDEO
OFF ←

The display indicator (▲) lights to show this.
OFF: The output signal is the same as the monitor output.

⑰ VIDEO INPUT selector switches

VCR 1:
Press this switch when playing back a tape in the video cassette recorder connected to the VCR 1 jacks.

VCR 2:
Press this switch when playing back a tape in the video cassette recorder connected to the VCR 2 jacks.

VDP/CDV:
Press to watch a program from a video disc player, CD CDV LD player connected to the VDP/CDV jacks.

TV:
Press to watch TV programs (reception with a TV tuner connected to the TV jacks).

VIDEO:
Press this when playing from equipment (video camera etc.) connected to VIDEO INPUT jack on the front panel.

⑱ AUDIO INPUT selector switches

TAPE 1/DAT:
Press to listen to the device connected to the TAPE 1/DAT input.

TAPE 2 MONITOR:
Press to listen to playback sound of cassette deck connected to TAPE 2 input.

CD:
Press to listen to compact discs played on CD player connected to the CD input.

TUNER:
Press to listen to FM or AM broadcasts from tuner connected to TUNER input.

PHONO:
Press to listen to records played on turntable connected to the PHONO input.

NOTE:
If the TAPE 2 MONITOR switch is ON, sound will only be heard from components connected to TAPE 2 jacks.

⑲ DELAY TIME switch

- **STADIUM, SIMULATED SURROUND:**

Switched the surround delay time in seven steps.

→ 5 → 10 → 15 → 20 → 25 → 30 → 35

Unit: ms

- **DOLBY PRO LOGIC SURROUND:**

Switches the surround delay time in four steps.

→ 15 → 20 → 25 → 30

Unit: ms

This does not operate when the surround mode is off or when STUDIO or DOLBY 3 CH LOGIC is used.

⑳ CENTER MODE switch

Selects the DOLBY PRO LOGIC SURROUND and DOLBY 3 CH LOGIC CENTER MODE (OFF, NORMAL, WIDE, PHANTOM) setting. This can only be performed when the DOLBY PRO LOGIC SURROUND or DOLBY 3 CH LOGIC is ON.

㉑ TEST TONE switch

This only operates when DOLBY PRO LOGIC SURROUND or DOLBY 3 CH LOGIC is used.
This switches the TEST TONE output ON/OFF to adjust the surround balance.
In the ON position the TEST TONE passes from the front left → center → front right → rear (L, R) (DOLBY PRO LOGIC) in that order, and can be heard for approximately 2 seconds from each speaker.

㉒ CENTER MONO OUT switch

This switches monaural (L + R) center speaker output on and off. (This switch cannot be used with DOLBY PRO LOGIC SURROUND and DOLBY 3 CH LOGIC)

NOTE:
Tone control doesn't operate with center speaker output.

㉓ DIRECT switch

Press this to listen to source sound without passing the audio signal through sound quality or balance adjusting circuitry.
To provide a better sound from the front speakers, the surround mode, center mono, and rear and center speakers are automatically switched OFF.
When DIRECT is ON, if you press the surround operation buttons ⑲, ⑳, ㉑, acoustic operation buttons ②, ④, ⑤, sound field memory operation buttons ③, ⑨, ㉒, or rear and center speaker switches, the DIRECT indicator flashes to warn you that they will not operate.

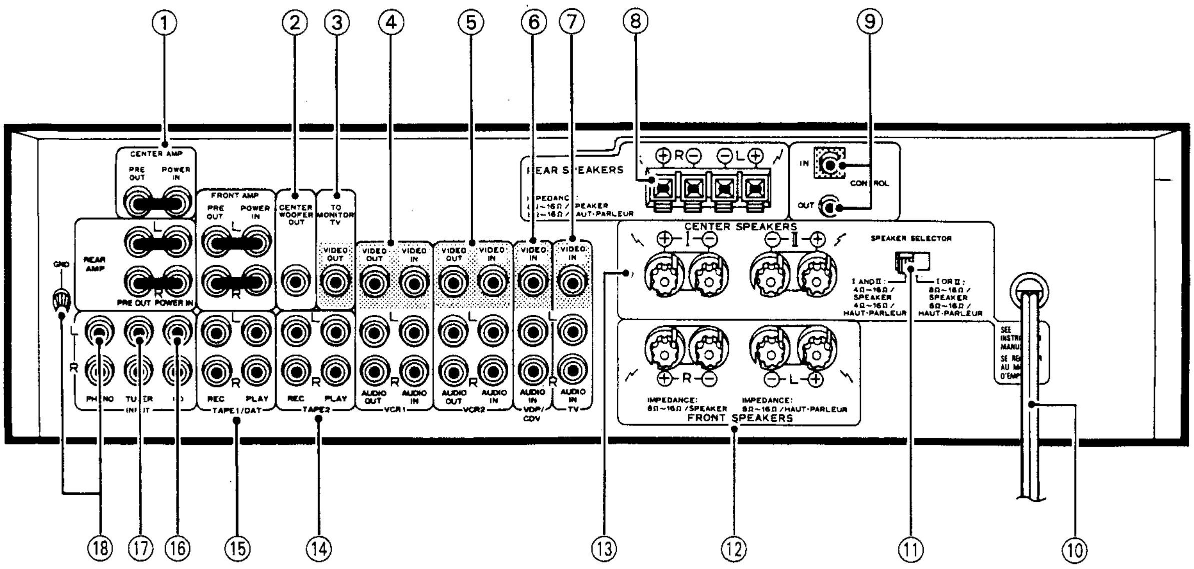
㉔ VIDEO INPUT jacks

Video components such as a video camera can be connected here.

• Last Memory Function

If you press the POWER switch after power has been cut, all settings other than MASTER VOLUME will be the same as before the power was cut.

REAR PANEL FACILITIES


①
②
③
④
⑤
⑥
⑦
⑧
⑨
CENTER AMP
PRE OUT
POWER IN
REAR AMP
FRONT AMP
CENTER WOOFER OUT
TO MONITOR TV
VIDEO OUT
VIDEO IN
REAR SPEAKERS
CONTROL
IN
OUT
CENTER SPEAKERS
SPEAKER SELECTOR
FRONT SPEAKERS
GND
PHONO
TUNER
REC
PLAY
TAPE1/DAT
TAPE2
AUDIO OUT
AUDIO IN
VCR1
VCR2
VDP/CDV
TV
L
R
⑱
⑰
⑯
⑮
⑭
⑬
⑫
⑪
⑩

① PRE OUT, POWER IN jacks

REAR AMP PRE OUT
CENTER AMP PRE OUT
FRONT AMP PRE OUT

When using a power amplifier to boost the volume of front, rear or center speakers, connect here.

REAR AMP POWER IN
CENTER AMP POWER IN
FRONT AMP POWER IN

When a preamplifier (optional) is used with the VSA-730 power amplifier to drive the front, rear or center speakers, use these jacks.

First switch the preamplifier power ON, and then switch the VSA-730 power ON.

NOTE:

When not using, be sure to connect the PRE OUT and the POWER IN with a connector bar.

② CENTER WOOFER OUT jack

If you want to boost the surround center channel low frequencies, or you want to use the unit in a 3D system, connect to a center woofer power amp.

Frequencies above about 200Hz are cut at 6dB/oct.

③ TO MONITOR TV jack

Connect to monitor TV or to TV set with video input jack.

④ VCR 1 IN/OUT jacks

For connection of first VCR.

VIDEO OUT:

Connect to VCR video input jack.

VIDEO IN:

Connect to VCR video output jack.

AUDIO OUT:

Connect to VCR audio input jacks.

AUDIO IN:

Connect to VCR audio output jacks.

⑤ VCR 2 IN/OUT jacks

⑥ VDP/CDV input jacks

Connect to videodisc (LD) player or CD CDV LD player output jacks (audio and video).

⑦ TV jacks

Use these jacks if wish to connect a TV tuner having both video and audio outputs.

⑧ REAR SPEAKERS terminals

Connect the surround rear speakers to these terminals.

Speaker impedance

Connect speaker systems with a nominal impedance of between 8 Ω and 16 Ω.

⑨ CONTROL IN/OUT jacks

These jacks for input/output of control signals when operating other components with the attached remote control unit.

⑩ Power cord

Connect this to the AC wall socket.

⑪ SPEAKER SELECTOR (CENTER) switch

This lets you switch speaker impedance to the correct setting for one center speaker or two.

With just one speaker connected:

Be sure to set the switch to "I OR II" (right side), and use an 8 to 16 Ω speaker.

With two speakers connected:

Be sure to set the switch to "I AND II" (left side), and use 4 to 16 Ω speakers.

NOTE:

Select the impedance switch setting when the main unit's power is in standby. Don't switch impedance when the power is ON.

If you connect a speaker to either I or II, and set the speaker selector switch to the "I AND II" position, there will be no sound.

⑫ FRONT SPEAKERS terminals

Connect the front speakers to these terminals.
Speaker impedance:
Connect speaker systems with a nominal impedance of between 8 Ω and 16 Ω.

⑬ CENTER SPEAKERS terminals

Connecting the surround center channel speaker system(s).
You can connect two speakers for dual center, so you can locate speakers on both sides of the TV.
When the speaker selector is in the "I OR II" position, use a speaker with an impedance of 8 to 16 Ω. If the speaker selector is in the "I AND II" position, use speakers with an impedance of 4 to 16 Ω.

⑭ TAPE 2 REC/PLAY jacks

REC:
Connect to recording input jacks of second cassette deck.
PLAY:
Connect to playback jacks of second cassette deck.

⑮ TAPE 1/DAT REC/PLAY jacks

REC:
Connect to recording input jacks of cassette deck or digital audio tape deck.
PLAY:
Connect to playback jacks of cassette deck or digital audio tape deck.

NOTE:
When using digital audio tape deck, connect its analog input/output terminals.

⑯ CD input jacks

Connect to the output jacks of a compact disc player.

⑰ TUNER input jacks

Connect to the output jacks of an FM/AM tuner.

⑱ PHONO input jacks/GND terminal

Connect here the output of a turntable. Connect the ground cable to the GND terminal.
Use a moving magnetic (MM) cartridge for the turntable.